ARCHIVES OF OTOLOGY.

SHOULD THE DEAF BE DEBARRED FROM ACCIDENT INSURANCE?[1]

By Dr. JAMES A. SPALDING, Portland, Me.

IF you were asked this question, you would probably reply that you did not know that they were; or you might say that they ought to be, because, as they do not hear, they are more exposed to accidents than those with good hearing, and who being so provided can escape with greater certainty from any impending accident. I am willing also to confess that I should have thought so myself, if I had enjoyed good hearing all my life. Having, however, been deaf to a considerable degree for more than thirty years (yet without any accident due to this defect), I had never considered myself a greater risk to any insurance company than people who hear. In February last, however, when offering my yearly premium to a New York Company to which I had paid a good deal of money without any indemnity, I was surprised to have it returned. To my inquiries they replied that they did not consider me a good risk, owing to deafness, although they had always known of this condition, as it was so stated in the original application.

When one has been long protected against accidents by insurance, and when his mind has been free from anxiety because he never has met with an accident from defective hearing, he feels alarmed to find his protection removed, and, as he believes, unjustly and unscientifically. In this state of alarm, I felt that I could do no greater service to a defective class of our population (asserted by some to

[1] Read before the Otological Section of the New York Academy of Medicine, May 14, 1903.

number nearly a million), than to look, more carefully than seems to have been done as yet by any of our noted otologists, into a question of public importance.

For if insurance against accident is to be denied to all the deaf as it has been denied to me, later on insurance for life may similarly be denied us, on the ground that, owing to our defect, our lives, although good from a physical examination and family history, may be abbreviated by accidents due to deafness, so that insurance for life should be denied us entirely, or smaller policies should alone be written, or higher premiums demanded. In other words, if exclusion of the deaf is adopted by other companies, this defective class may be forced to abandon insurance or only be enrolled in the dangerous class.

If insurance is a benefit, and I am of those who believe in it as protection for one's family and one's self, the deaf should have their rights defined. I intend therefore to try to show to you that, from my experience and investigations, they are as safe to insure as those who can hear.

If, furthermore, we recall a resolution offered, if not actually passed, at a recent meeting of otologists, for the prevention of noise by compulsory use of rubber tires on all vehicles, we shall note that our confrères are doing all that they can do to bring about increased risk of limb and life to all, to say nothing of equalizing insurance for those who are deaf and those who can hear. From my point of view they are trying to put us all on the same level so far as hearing anything on the streets is concerned.

From the meanest scientific aspect, if denied equal risks with those who hear, I shall claim that accident insurance should be given to the deaf for every other possible accidents than those likely to affect pedestrians.

Let me recall a curious incident, showing how the deaf may be better risks than those who can hear.

Some years ago as I was walking rapidly along the streets, for I never owned a horse or used one except upon compulsion in my life, I felt by vibrations communicated through my feet a noise that I could not understand. Looking around I saw dashing toward me, on the same pavement on

which I was walking, a runaway horse, dragging and slatting about at his heels the remains of a carriage. It was the action of a second to step aside and let him pass. Continuing down the street he injured two people who, as I afterward discovered, had the best of hearing. My better hearing in a noisy street, together with my good bone-conduction, saved me; the good hearing of those people, diminished by the noises of the streets and their total absence of bone-conduction, failed to save them from injury.

Now, barring those obstinate, foolish old men who walk on railroad tracks contrary to all laws of common sense, and who as a consequence of their folly are injured or killed, careful investigation of street accidents will show about the same percentage of injury amongst the deaf as amongst those who can hear (I leave aside accidents not connected with hearing), and I base my assertion on reasons of great weight to otologists who have studied aërial and bone-conduction.

My first point is that the deaf hear better in the noise of the streets than those with good hearing. When a deaf man walks about with his friends in the streets, he is obliged to shout to make them hear. They can make themselves audible to him with an ordinary voice. The louder the noise, the better most deaf persons hear. Noise abolishes their tinnitus and in some way improves their hearing, probably by producing increased tension of the drumhead.

In Pullman cars, where the noise is muffled by easy-running axles, the deaf do not hear well. But in ordinary cars they hear well so long as the car is moving rapidly. When it stops, they are obliged to ask their friends to speak louder. I know a man with one ear good, the other deaf. When the car is not moving, he hears perfectly with his good ear. When it is moving and there is much noise, he, unconsciously, turns around his deaf ear with which to carry on conversation.

Hearing better in a noise has been denied, and the fallacy, as it is called, exposed by saying that if the deaf hear better in a noise it is only because their friends unconsciously raise their voices as the noise increases. This may be so, or it may not be so, as a mere matter of opinion. I ask you,

however, to explain to me the fact, that many deaf people can hear in a noise a Galton whistle or a tuning-fork which those with good hearing cannot hear. Yet neither the whistle nor the fork is sounded louder in the test for the deaf than in that for those who hear. To my ears and to my mind this is a crucial test and worth more than mere opinions.

Next, you are all familiar with bone-conduction. Yet how often its true significance is lost, — how often we hear it given as a sound medical opinion that so and so cannot be deaf because on dropping on the floor a coin or a key so that he could not see the action, he, nevertheless, turned around to investigate the noise, something that he would not have done had he been deaf. This, however, as we know, is just what he should do, being deaf, and is proof positive of his loss of aërial conduction, and of the preservation of his bone-conduction.

It is now this bone-conduction, this susceptibility of the deaf person to noises transmitted through his feet, which renders him unusually free from accidents, to say little of the undeniable fact that all defectives are more watchful of their surroundings than those who rely too absolutely upon their perfect faculties.

Recall, again, my curious escape from a runaway horse, whilst those with good hearing, in quiet but not in noisy streets, without bone-conduction, and not watchful, fell victims. I find, however, that since wearing rubber heels my bone-conduction is not so good as it used to be with leather heels.

Furthermore, by bone-conduction the rumbling of heavy vehicles is felt by the deaf *sooner* than the sound made by whistles or bells or cries of warning can reach those that hear.

The watchfulness of the deaf, and of defectives generally, is analogous to that same trait in invalids, who take great care of themselves, who expose themselves but little, and who by so doing long outlive those with enormous strength and overflowing vitality carelessly exposed. Think here too of the blind, how fearlessly they go about, yet how rarely they are injured, owing to their carefulness.

From a third point of view, those who deny insurance to the deaf should make careful investigations amongst deaf-mutes. Here is a virgin soil so far as I can see. My investigations show an almost absolute immunity of these defectives from accidents that might be due to deafness. A teacher in a school, through which passed in her ten years of service more than five hundred of this class of people from six to twenty-one years of age, never knew one of them to meet with injury in the streets. Nevertheless they hear nothing, and most of them have no bone-conduction.

More accidents are due to lack of presence of mind than to loss of hearing. How often we read of some person deciding to go ahead of a vehicle, then deciding to pass behind, only to meet the heavy vehicle hopelessly under way and to suffer injury or death. Absence of mind plays a great rôle in accidents, neither the sight nor the hearing being utilized as they ought for self-preservation. People so afflicted should be enrolled amongst the defectives and the bad risks.

As an instance: three men are working in an elevator shaft, the floor-to-floor doors rising and falling automatically with the movements of the car. The elevator car rises, the two men with good hearing hear it coming, hear the warning whistle, but hesitating a second they jump the wrong way and are injured. The third man, nearly totally deaf, hears nothing, yet by presence of mind escapes without a scratch.

From another point of view, accidents depend more upon the rapidity with which they occur than upon our ability to escape even with perfect hearing. Here we need neither hearing nor sight. Our escape depends on our agility.

Furthermore, it is a fact that people with loss of sight of one eye, or with high degree of myopia, or with loss of their visual fields, are very hazardous risks. When exact justice is done to all applicants for insurance, all defectives should be classified side by side with the deaf, under a free and scientific interpretation of defects of the body.

Statistical examination of thirteen thousand indemnified accidents showed me nearly thirteen hundred occurring to

pedestrians. Out of these, about seventy were likely to happen to both those who hear and those who are deaf. Excluding those in which the good hearing had probably been diminished by the noises of the street, I failed to find more than seventeen that could positively be ascribed to deafness and to no other cause. It is therefore plain that seventeen deaf claims out of thirteen thousand is an infinitesimal percentage, and one that no company should be permitted to refuse.

This paper is to call your attention as aurists to the investigation of such accidents as you may know of from your patients, medical friends, medical examiners, railroad surgeons, etc., so that by statistical papers we may establish a scientific basis of the probabilities for and against insurance of the deaf. In this way only can we ultimately obtain a fair insurance-valuation for accidents due to deafness alone.

In a word, I would like to awaken some interest in a topic important to a large class of defectives. If the deaf are a greater risk, let them pay more. If not, let them have equal chances with those who hear well. The lessons that I would have you teach to all with whom you come in contact are: that it is an exaggeration to claim that the deaf are more liable to accidents than those that hear; that their lives are as safe a risk as those of the average insurable person; and that although your attention has not often been called to this subject, yet what you once heard here, at a meeting of your Society, left no reasonable doubt in your mind that the chances of the deaf on the streets are fully equal to those whose hearing is good.

At all events, my conclusions, based on personal experience and considerable thought and study, are that—

Owing to the greater care which the deaf person takes of himself, because of his very defect;

Owing to his better perception of sounds in the noise of the streets than in the case of those who can hear;

And owing to his bone-conduction, whereby he early becomes aware of approaching danger,—he is as good a risk against pedestrian accidents as are those who can hear well.

TINNITUS, WITH A PLEA FOR ITS MORE ACCURATE MUSICAL NOTATION.

By Dr. JAMES A. SPALDING, Portland, Me.

(*With eight text-cuts.*)

Read before the Otological Section of the New York Academy of Medicine, May 14, 1903.

NOTHING especially new regarding the pathology of tinnitus has appeared since the publication of recent articles by Panse (Archives of Otology, vol. xxviii., p. 353) and Phillips (*The Laryngoscope*, March, 1902). Therefore there is no need for me to go over the same ground with these or other writers, whilst you are all familiar with the views expressed in modern text-books. My purpose in coming so far from home is to call your attention to a proposal for a more accurate investigation of the position of tinnitus in the musical scale, to see if a more graphic notation cannot be recognized, and to say something about the methods of treatment which have seemed useful in my practice. My idea is that in the treatment of chronic dry catarrh of the middle ear and its forerunner or sequence, tinnitus, we follow altogether too rigidly the well-beaten paths, and fail to make new openings for ourselves. I ask you if it would not be a great deal more accurate and scientific, instead of talking, for instance, of tinnitus as buzzing, roaring, rustling, singing, blowing, humming, puffing, thumping, beating, crackling, whistling, hammering, raining, booming, thundering, chirping, tinkling, steaming, etc., to analyze each case more accurately, to test each patient along the keyboard of the piano with the purpose of discovering, if possible, a more accurate location of the

given sound in the labyrinth, and later on of establishing a more rational basis for treatment than that which we now possess.

It is easy to say that very few people have any idea of musical pitch, but a little research will show you that many people can "place" their tinnitus with considerable exactitude. Even if but few can do this, amongst the hosts of aural patients, we may at least make a beginning, and if we meet with encouraging results go farther on.

Panse and others have tested their many patients with tuning-forks, but it must be confessed that all such tests are insufficient and unscientific in comparison with the more careful testing, semitone by semitone, along the whole extent of the piano keyboard.

For many years I have had care of the ears and hearing of a man who has made the profession of music his life-work, and who, of course, has musical notation at his fingers' ends. During this time he has consulted me for several losses of hearing from impacted cerumen, but after its removal by the syringe his hearing, as tested by forks and the entire range of a large organ and a grand piano, has been found perfect. At his last but one attack of deafness, there was, instead of cerumen, a slight tubo-tympanic catarrh which soon yielded to the catheter and inflation. At his very last attack, recovery was slow, and he complained for the first time in his life of tinnitus, which he wrote out thus:

beginning, as you see, on *c* and gradually sweeping up through *g*, *d'*, *e'*, *f* sharp, to g^{1}, where it remained constant about a minute and then ceased. In a few minutes it would begin again, as before, and so on indefinitely. As it did not yield to the former treatment, the patient was given morning and night for a few days a capsule containing, each, gram. 0.12 (grains 2) of the powdered extract of the suprarenal glands, with the happy result of rapid disappearance of the annoying tinnitus. Whether this was due to the

medicine alone it is impossible to say, but similar good results in numerous other cases have led me to have some faith in its efficacy as an absorbent of tympanic effusions.

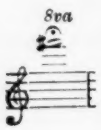
Soon after, another patient came complaining of tinnitus, although with but very slight, if any, deafness. Although he had no musical education whatsoever, there was no difficulty in getting him to locate upon the piano the note corresponding with his tinnitus. He picked out this note as marked on the staff:

which you may call *a*, but without any overtones as in the other case. The use of Siegle's speculum producing rapid massage of the *Mt*, without, however, using any greater force than could be produced by the puffing in and out of the buccal muscles, soon reduced the tinnitus, which seemed to be due to relaxation of the *Mt*, rather than to any possible accumulation within the tympanum. I then made the following curious discovery which is not mentioned in accessible literature. If I made the last movement of the massage with suction, and then withdrew the speculum, the tinnitus ceased. If I again introduced the speculum and blew into the meatus, the noise returned, showing that the inward deviation of the *Mt* excited the tinnitus, whilst the outward caused it to cease. This is a nice point to remember, and shows that the use of massage by the lips alone has some advantages over coarser, mechanical movement by various sorts of motors.

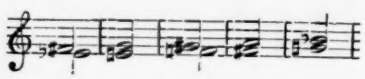
If you will permit me to offer myself as a patient I will locate my tinnitus, day in and day out, as $f^{\sharp}$, or, as notated musically,

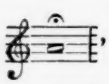
with occasional intromission of the overtone d^1.

Gustav Brunner was the first to call attention, years ago, to an observation of the usual low-pitched tinnitus being interrupted by a higher tone, suddenly piercing through and

overclouding it, so as to make the original hardly perceptible. The same phenomenon in my own ears, I would like to describe more accurately in these words: Without the least warning, and without the necessary presence of a "cold" in my head or nostrils, the right ear will seem to close as if with a bubble of air, the tinnitus in the left ear will cease, the right ear will feel as if frozen and standing away from its attachment, and then out of that benumbed congestive vacancy arises a delicate high note of about the same pitch as the original tinnitus in the left ear, only three octaves higher—$f^{\sharp 3}$—and written thus:

Sometimes this high note is a semitone higher, that is to say g, yet at the same three octaves above the original tinnitus. The phenomenon hardly ever lasts more than two minutes, whereupon the bubble bursts, as it were, the high note fades away, the right ear resumes its usual sensation, whilst the old tinnitus on the left side becomes again interminable.

Several years ago the tinnitus, after exposure to a loud mechanical noise, ceased for two or three days, but in the interval on playing any instrument the notes lying near the original tinnitus were reduplicated, as here below; the lower row, $e^{\flat}$, e, f, $f^{\sharp}$, and g, showing the notes touched, the upper, $f^{\sharp}$, g, $g^{\sharp}$, a, $a^{\sharp}$, the notes as they sounded:



then from a, or, as I prefer, , upward, there was no double hearing.

Panse, in the paper referred to before, printed a single instance of musical notation, and as it did not appear in the English translation it may be placed here, because it gives an exact idea of the location of the tinnitus, and differs from

most authenticated cases in being a repetition on three notes.

Let me next mention that some patients are very sensitive to the note corresponding to their tinnitus, whilst others are pleasantly affected. Urbantschitsch mentions a musician who perceived a tinnitus on d''', but in order to hear that note on the piano it was necessary to hit it hard and it sounded harsh. On the contrary, we find those who hear the note corresponding with their tinnitus clearer, and are sure that it is easier to perceive than any other note on the keyboard. Investigation of this phenomenon may lead to something useful for localization or treatment of tinnitus, as will be mentioned farther on. Thus, for example, the sensitiveness of the ear to the given tone may suggest tympanic effusion or obstruction in one case, whilst the pleasurable reception of the tone in another ear may suggest labyrinthine disease.

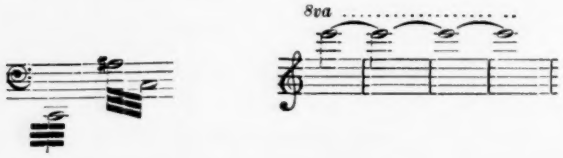
After finishing this paper, I was much pleased to find at hand an illustration of my suggestion. Dining one evening in Washington, chance threw me alongside of a cultured violinist, to whom I communicated the theme of this paper. He then told me that some years ago he put cotton into his ears before surf-bathing, but took it all out, as he imagined, on coming from the water. On the next day, however, and for more than four years afterward he suffered from a tinnitus in one ear, and whenever during all that time he played on his violin the note corresponding with the pitch of the tinnitus, he felt a most disagreeable sensation in the ear. When he finally consulted a skilful aurist and had a bit of cotton removed from contact with the drumhead, where it had remained for four years, the tinnitus ceased, and with it the sensitiveness of the ear to the corresponding tone when sympathetically vibrated by the violin.

This then induces me to bring forward the theory that, if

the perception of the tone of the tinnitus is pleasant to the patient when sympathetically vibrated by musical instruments, the tinnitus is labyrinthine; if unpleasant, harsh, and sensitive, then the tinnitus is due to obstructed conduction, foreign bodies, cerumen, tympanic effusions, etc.

Those of you who are musical and attend the concerts of the Boston Symphony orchestra when it is in New York may have heard some of the noble symphonic poems of the Bohemian composer, Smetana, a man so renowned at home that when he resigned the conductorship of the opera house at Prag, on account of deafness, he received medals, money, and the freedom of the city. If you have not heard his music, go at the first opportunity.

Smetana, after losing his hearing, composed a string quartette entitled "Aus meinem Leben" ("Scenes from my Life"), depicting in the first movement the happiness of youth; in the second, love and marriage; in the third, out-door Bohemian life; and, in the last, a contemplation of his life, with suggestive themes from the former movements. Just before bringing the quartette to a close, the cello and viola suddenly begin a tremolo,



and from those deep notes arises upon the high strings of the violin the prolonged note $\overline{\overline{\overline{e}}}$, which, Smetana in his program tells us, is his original tinnitus, premonitory of his later deafness. This is the only program music of tinnitus with which I am acquainted. Beethoven has similar passages, but he never said that he meant by them to indicate tinnitus or approaching deafness.

Anything that can diminish tinnitus will go far to relieve one of the grievous burdens of humanity. Patients often say that they can endure being deaf, but that the noises spoil their lives. Passing by the classical allusion to the patient who committed suicide on account of tinnitus, which

must have been the hallucinations of a weakened mind, there can be no doubt that subjective noises are distressing, to say the least. There is but one brightness amidst the gloom, and that is when in the silent watches of the night you dream of conducting vast orchestras with an innumerable host of listeners through wonderful compositions, only at last to awake to the dreary discovery of your constant companion—tinnitus. Your melodies, just before perceived, were echoes alone of that.

It is not worth while to linger upon the presentation of the musical aspects of tinnitus, and they have only been mentioned to show that to discover the pitch and to note it musically are not difficult. What I would like to see is notation, as here given, in every case of tinnitus. The expense of printing may be greater, but you can demonstrate to the eye a tinnitus so much plainer by a visible note than by the other methods, such as c, c^{I}, c^{II}, c^{III}, etc., or c^{1}, c^{2}, c^{3}, c^{4}, or $\overline{c}$ $\overline{\overline{c}}$ $\overline{\overline{\overline{c}}}$, or, in the case of lower notes of $\underline{c}$ $\underline{\underline{c}}$ $\underline{\underline{\underline{c}}}$, that the question of expense ought not to be considered too great a sacrifice in the direction of scientific lucidity.

Furthermore, the piano keyboard method of ascertaining the position of tinnitus is so much more scientific than by forks, unless one has a complete and costly set from semitone to semitone, that the two can hardly be mentioned in the same breath.

Additionally, it should be urged that if this testing is attempted it should be done with the patient's head erect, as well as bent forward, backward, or to one side, especially in the presence of undoubted tympanic accumulations.

In the treatment of tinnitus, let me mention unusual methods; the old ones are too familiar to repeat.

Ergot used hypodermatically or into the substance of the muscle (preferably over or into the deltoid) is often beneficial. Fifteen minims (to be increased gradually) of Squibb's extract in a formaline solution (1:1000) act happy at times. This dose can be repeated daily or every second day. It has been claimed that the injection of strychnia into the temples acts more efficaciously in cases of optic

atrophy than when injected indifferently into the system hypodermatically. If you believe this, then you may inject the ergot into the skin over the mastoid process or in front of the auricle.

Glycerole of iodine applied over the mastoid process, and especially in the fold of the skin at the attachment of the auricle, is worth trying. This solution can be made by distilling an ounce of pure iodine in twelve ounces of alcohol over a sand bath and adding to the residual fluid four ounces of glycerine. This is much more valuable as a counter-irritant than many of the external applications—such as olive oil and chloroform, and the morphia mixtures of the text-books. Iodine, five-per-cent. solution, in glycerine, is equally useful.

Electrolysis against and through the labyrinthine windows, *via* the *Mt*, might be of great use if we could discover a trustworthy local anæsthetic. Aniline oil and alcohol, equal parts, with five per cent. of cocain, serve admirably in some cases. With perforation, this should not be applied too abundantly.

Lucae's pressure-probe is another mechanical agent worth trial oftener than seems to be the case in America.

Hypnotic suggestion is something that should also be utilized a great deal oftener in tinnitus than at present. I believe that there is a wide field for its employment in this distressing symptom.

Bougies into the Eustachian tube do not appeal to me for aural treatment of any sort. The sensation produced, like unto being lifted off of the floor by a hook inserted beneath the ear, as I know it, is something not to be recommended to patients. I have often wondered if the bougie-sensation were not a good deal like the hit on the point of the jaw just before it knocks you out.

There are two ways of utilizing hot air for the treatment of tinnitus. The one with a little cylinder filled with charcoal and heated by an alcoholic flame, or with a similar cylinder heated by a galvanic lamp, has not seemed to me successful. On the contrary, the application of heat to the auricle, side of the head, and into the meatus by means of a

stove with funnel and sleeve to cover the ear has helped two recent cases greatly. In one, especially, there were all the symptoms of Ménière with profound deafness and vertigo, in which the use of hot air daily by the stove improved the hearing more than one half and entirely relieved the vertigo in the course of six weeks, after many remedies had been tried in vain for as many months. With the cylinder apparatus the patient is tied down to daily visits to the doctor, whilst with a stove for each case more regularity is obtained at home. If the patient must be under close observation, visits to the medical adviser can be made as often as needed. Hot air applied into the ear in this latter way is a distinct advance in otology and in the treatment of tinnitus.

A manufacturer in our city makes a handy atomizer for albolene solutions. By using this as an inflator, instead of the usual Politzer Bag, vapors can be gently forced into the middle ear as the patient swallows. Most of my patients get one of these and use it at home under proper instruction. Chronic cases find this more helpful in relieving the tinnitus than any other method.

Thiosinamine is unstable; yet it may be tried. It ought to be used more often daily than once, as advised in literature, if any effect is desired. Most people find no trouble in taking a grain or even two, three times daily, about an hour after meals.

Personal experience is always useful, and for the last time speaking personally, the late James Hinton relieved for me an annoying tinnitus by perforating the *Mt*, and syringing soda-bicarbonate through it into the naso-pharynx. The operation, without an anæsthetic, was not very painful. The worst sensation was a frozen feeling at the tip and one side of the tongue, when the knife approached the chorda tympani. That tinnitus never returned, and the hearing was not injured.

Massage, as was mentioned before, can be more scientifically applied by the motion of the lips and tongue, than by mechanical motors, and is a useful aid in some cases of tinnitus.

The fact that the application of the galvanic current through the auditory nerve causes a tinnitus which varies in pitch in different persons, suggests its more exact use in the treatment of this affection. Discover the special intensity which produces certain notes in normal ears; then utilize that intensity in abnormal ears with a similar pitch of tinnitus.

Finally, an observation which I have made, that the exposure of an ear with tinnitus of a certain pitch to the prolonged action of the tone of an organ or reed pipe or violin string of the same pitch diminished and even removed permanently for a certain length of time the disagreeable subjective sensations, seems to open a new field in the treatment of this obstinate affection. This observation has been one of my principal reasons for bringing again before this Society the question of tinnitus, with a view to a more accurate and scientific localization of the pitch, combined with a more striking musical notation than has been commonly employed. It is only by leaving the old ruts and trying other methods that we may in time do better work in a series of mostly hopeless cases of tinnitus. Let younger men with good hearing and some musical education study their cases more carefully, and they may look forward hopefully to doing more efficacious work than their predecessors have done. For if it is true, as Zaufal has suggested, that there is a certain set of auditory cells more easily affected by irritations than others, what those cells are, and where they are situated in the labyrinth cannot be more probably discovered than by studying and investigating their location-pitch as exhibited by their tinnitus when they are irritated.

THE UNIVERSITY CLINIC FOR DISEASES OF THE EAR AND THROAT IN ROSTOCK.

By the Director, Prof. O. KOERNER.

(*With appended Plates XI. to XIII., Vol. XXXVI., Zeitschrift f. Ohrenheilkunde.*)

THE clinic is built so as to face the south. On the west side there is a separate entrance for the dispensary patients. The main entrance is on the east side.

In the **basement** there is a room for storing the clothes of the patients, who put on the ordinary hospital wash clothing directly after the bath ; closets, heating-apparatus, and coal-bins. The heating is the low-pressure steam system. There are two furnaces of which each can be used alone. In connection with this heating-apparatus, there is a boiler for hot water which supplies hot water to all the floors. There is another boiler for the hot-water pipes to be used in the summer. In connection with the heating there are pipes which convey the heated air to all the rooms and shafts which carry away the exhausted air. The illumination is electric ; the medical apparatus for illumination, trans-illumination, and galvano-caustic are in connection with the general electric current. Gas is only used for the sterilizers in the small rooms next to the operating-room and in the dispensary, the laboratory, and the kitchen.

The **corridors and stairways** are so arranged that daylight is admitted to all corners. The **halls** are unusually large and can be used as day rooms for patients, and also for the purpose of functional examination of the hearing. The staircase is of iron with oak steps.

The **ground floor** contains the dispensary rooms in the centre. The entrance leads into an anteroom which divides the dispensary proper and the waiting-room. This room serves for a cloak-room.

Next to the dispensary room there is a **dark room for trans-illumination** and a **room for dressings.** The dispensary is also used as a lecture room. There are further a bath-room and **laboratory** with a **museum of normal and pathological specimens.** Two rooms are assigned to the **director** (executive surgeon) which include a library. The residence rooms of the **first-assistant** are also on this floor.

A **large wing** contains the **operating-room** and a **number of adjoining small rooms.** The floor is of mosaic. The operating-room is furnished with a broad window looking north, reaching to the ceiling.

The two rooms over the operating-room are the **children's wards** and a **room** for the **nurses.** Each ward contains eight beds. There is a large space which can be used as a play-room. The large room over the **dispensary** is the **male ward.** This has room for eight beds. The rooms over the laboratory are the **female wards** and contain four and two beds. The remaining **five rooms are for private patients.** The furnishings are very simple but substantial. In the top story there are **isolation rooms** and **rooms for the help.** In a southerly direction there is a **garden 50 x 15 metres** which can be used as a play-ground. On the north side there is another open space four times as large, which also serves for a garden.

THREE CLINICAL COMMUNICATIONS TO OTOLOGY.[1]

By EMIL AMBERG, M.D., Detroit, Mich.

I.—ADDITIONAL REMARKS TO THE REPORT OF A CASE OF SCOTOMA AURIS PARTIALE CENTRALE ET PERIPHERICUM.

THESE remarks constitute a supplement to the case reported before the Wayne County Medical Society, November 20, 1902, and published in the *Journal of the American Medical Association*, January 17, 1903.

February 25, 1903. — After catheter: Both drum membranes retracted in their totality; convex, like the segment of a globe, toward the promontorium. Hearing for low tones diminished, especially on left side.

$\frac{2}{100-150}$ (i) Watch $\frac{1}{100-150}$ (i)

After using Lucae's pressure probe: $\frac{2.5}{100-150}$ (i) Watch $\frac{1}{100-150}$ (i)

Examination with Siegle's speculum does not reveal anything unusual.

DRUM MEMBRANES.

Right Ear.	Left Ear.
Surface smooth.	Smooth.
Inclination: Totally convex towards promontory.	Inclination: Totally convex towards promontory.
Thickness: Seems not abnormal.	Same as in right ear.
Color: Gray white.	Same as in right ear.
Light reflex: Trace at umbo.	A trifle more than in right ear, but also only trace at umbo.

[1] Read before the Eye, Ear, Nose, and Throat Section of the Wayne County Medical Society (Michigan), April 27, 1903.

Patient reported later that on February 28, 1903, heard watch better when watch was higher. Thinks that she heard exceptionally well that day.

Says that on March 2, 1903, her hearing was not so good, and she heard the watch better directly opposite the ear. She also says that people at home laughed at her because she misjudged direction of sounds.

Patient also reports that in September, 1899, she met with an accident, when a candle, the weight of which she thinks was about fifty pounds (in church), struck left ear; she fell about three feet. Was taken up unconscious, but regained consciousness immediately. Did not notice anything particularly wrong about herself.

Hearing for the watch, March 15, 1903, after catheter: $\frac{3.50}{100-150}$

Watch $\frac{1}{100-150}$

After publication of this case in the *Journal of the American Medical Association*, my attention was called to the literature of similar phenomena by a colleague in the East. The *Monatsschrift fuer Ohrenheilkunde* of February, 1872, contains a *résumé* of an article by Urbantschitsch. Urbantschitsch describes three deaf points which presented themselves when hearing tests were made with a tuning-fork. In the same journal of May, 1872, Dr. Emil Berthold, of Koenigsberg, speaking of the deaf points of the ear found by Dr. Victor Urbantschitsch, comes to the conclusion that there do not exist any deaf points of the ear. Already Dr. Pleischl had remarked that the cause of the phenomenon did not lie in the perceptive organ but in the sound-producing outer object. Politzer found that examination with a watch never led to discovery of deaf points.

Concerning the ability of determining from what directions sounds emanate, I quote from Anna Tomaszewicz's inaugural dissertation, *Beitraege zur Physiologie des Ohrlabyrinths*, Zurich, 1877, chapter vi., "Examination of the Judgment of the Direction of Sound": "The experiments were carried out either in ordinary environments with closed eyes, plucked-up ear canals, or covered auricles, or in a great reservoir of water used for bathing purposes, together with a friend. At an average there was one deception among

thirty-one experiments. Mostly the direction from front was confounded with the direction from behind, especially if the sound was not sufficiently intense. This occurred more rarely under water than out in the air."

Jones and Stewart, in their text-book, *Diseases of the Ear*, fourth edition, Ballière, Tindall, & Cox, London, 1892, say in the chapter "Testing the Acuteness of Hearing":

"In the same lecture Dr. Ogston says: 'I do not think a better illustration could be given of the imperfection of our methods than the fact that it is not generally known that the field of hearing of a normal ear has its limits in lateral directions, and that points of greater and less acuteness exist in it. If a person be seated with his ear horizontally directed towards a watch or other source of sound, and at such a distance from it that he can just distinctly perceive it, it will be found that as he inclines his head in various directions the sound becomes more or less distinct, and at certain limits of inclination inaudible. As an instance of this, I may give the measurements taken in the left ear of one of my patients, who suffered on his right side from the labyrinth disturbances I have described, but in whom the left ear was normal. When the imaginary line joining his two external auditory meatus, which I may call the meatus line, was directed horizontally, and a watch was placed in the prolongation of this line at a distance of ten feet from his good ear, at which point he could just distinctly hear it, it was found that when he rotated his head for fifteen degrees towards his back—that is, in a horizontal plane backwards—the watch was heard at a distance of fourteen feet, or, which is the same thing, if his head remained stationary while the watch was moved forward to a situation fifteen degrees in front of the meatus line, it was there heard at a distance of fourteen feet. It was, of course, immaterial to the result, whether the patient or the watch was moved. In testing further, it was found that if the watch were moved forward to an angle of forty degrees in front of the meatus line it was there heard only at six feet, and at fifty-five degrees only at three feet. The back part of the field showed a slow decrease of the range of hearing, the watch at twenty-five degrees backward being heard only at six feet, and at forty degrees backward at five feet, beyond which the range fell to three feet and less. So that the patient's field of hearing embraced only ninety-five degrees of a circle, its point of greatest acuteness

being fifteen degrees in front of the meatus line. The diagram will render this more intelligible. It corresponds to several other measurements I have taken of normal ears, and is, I think, a tolerably accurate representation of what is usually found in health; although the conditions under which I had to work when examining all these cases, particularly as regards noise and currents of air, were unfavorable to perfect accuracy.

"'When the hearing in the vertical plane was next examined, it was found that here also the sound was not best heard when opposite the meatus. It was there audible at ten feet, while at fifteen degrees above the range diminished to eight feet, forty degrees above to six feet, and sixty degrees above to three feet and less; but below it slowly increased for thirty-five degrees, at which point it reached twelve feet, diminishing then to ten feet at forty degrees, and to three feet and less at fifty degrees, as shown in the diagram (Fig. 20). The point of most distinct hearing is, therefore, below the ear.'

"In this connection I may mention the symptoms in a patient of mine, Mr. O. H., twenty-three years old, who consulted me in midwinter, 1901–1902, on account of an acute simple catarrh of his left middle ear, improving under catheter treatment, necessitating, however, later on, a paracentesis. This patient could hear considerably better when he held his head towards the left shoulder, which improvement, in my opinion, could simply be attributed to the change of the position of the exudate in the middle ear."

It may be suggested that the phenomenon in our first case might be due to temporary fatigue. We know that the same patients during the time of testing respond to the same test sometimes entirely differently. This explanation seems, however, rather improbable. It would seem that the changing conditions of the middle ear and their possible influence on the membrana tympani are of consequence in regard to the phenomenon. Whatever may be the cause, the clinical picture should invite investigation along the same lines.

II.—SYNCOPE AFTER DEEP MANUAL PRESSURE ON LEFT SUBAURICULAR REGION AT THE ANGLE OF THE JAW.

Mr. J. F. R., of Detroit, aged sixty-eight, consulted me on recommendation of his family physician on February 27, 1903, com-

plaining of three different kinds of noises in his left ear. One day, in the course of treatment, I compressed the left carotid artery with my right hand, placing the thumb on the artery at the angle of the left jaw, exercising counter-pressure on the vertebræ with the four other fingers. While doing so the patient's face became suddenly white, and his head fell over on his chest. I immediately laid him on the floor, but he came to even before I had made him comfortable.

I asked the patient, a very intelligent man, whether he felt bad. He said that, on the contrary, the sensation was a very pleasant one, just like going to sleep. One of the next days the patient asked me to show him the spot where I had exercised the pressure. I showed it to him. Then he told me that just before going to sleep he was retarded somewhat from doing so on account of the noises in the ear, and that he then should like to press just a little on that spot. Considering the age of the patient, I advised strongly against any such manipulation on his part, especially after the occurrence in my office—although another patient of mine (female) used compression, with some temporary benefit, against the noises.

It was suggested to me to see whether compression of the right carotid artery with the same patient would produce the same symptoms, as there might be changes in the right carotid artery, placing more demands than may ordinarily be the case on the left carotid. I confess that, in spite of my curiosity, I do not feel like attempting to try the experiment. It is not impossible that the syncope may also have been caused by pressure on the sympathetic nerves.

Patient was referred back to the family physician.

April 18th.—Patient feels generally better. Although there is still some "drumming," the condition is better, and he hears only "one set of noises."

III. — TRAUMA TO THE HEAD, SHOWING SYMPTOMS OF AFFECTION OF RIGHT INNER EAR.

Mrs. D. L., fifty-seven years of age, while visiting in Detroit, was referred to me for consultation. The patient tells the following story:

Fifteen years ago she caught her foot in a flat-iron which the servant girl put at the foot of a door in order to keep the door open. She fell, striking her head against a pipe on the wall,—

a pipe of about three inches diameter. The portion of her head striking the pipe was the right side of the frontal bone about one-half inch over middle of supraorbital notch.

The door was neighboring a long staircase of about eighteen steps. After the fall on the pipe she lost consciousness and fell down-stairs. After the patient had fallen half-way down-stairs she felt every hit; recovered consciousness, it appears, after falling half-way down. When she arrived at the foot of the stairs she got up immediately, as she says, and felt all right until the second night after the fall. Then, about midnight, patient had a dizzy spell, thought that whole bedstead was going to the left. Called to husband: "Hold me! I am falling!" She also had a feeling as if sinking down in bed.

It took two days before she was able to stand on her feet. Felt very miserable for two days. If anybody spoke behind her back, she could not turn around. When she turned to the left side the feeling of dizziness appeared, but she could turn somewhat to the right. She says that a physician gave her a heart-tonic, and she thinks that she suffered from shock owing to the fall.

Eight or nine years ago the patient, while driving, was thrown out of a carriage; fell on her legs, and thinks right leg now weak. One winter night, about three years ago, imagines that she got a draught. Head felt just as if paralyzed. Could not lift head. Daughter thought that patient was going to die, because she felt weak and could not rise.

As soon as patient exerts herself her head feels big. In winter time dizziness worse. When son lifted her up he had to promise to hold her tight.

When patient was in New York, February 5th–22d, she had dizzy spells on two occasions. She felt sick if not left quiet on pillow. Some months ago, when her daughter lifted her up quite rapidly from a reclining position patient vomited. So long as she has been in Detroit (April 12, 1903), for about two months, she had no dizzy spells. Polyuria when dizzy spells took place.

One night some weeks ago a tachycardiac attack occurred, after her description, for about three minutes, which she attributed to digestive troubles. Noises like "steam escaping" in right ear all the time, especially when lying down or when exerting herself. Noises are constant and of different tones. At times, when turning to the left, she feels faint.

Status: Moderately stout lady of healthy appearance. Depression on right side of frontal bone about one-half inch above supraorbital notch.

The examination of the ear gives very little information. Low and high tones are heard on both sides, and a very great difference for voice and watch does not exist. A low fork, she says, is heard much fainter in right ear. "99" whispered, heard at a distance of about fifteen feet in right ear; "81" whispered, heard in left ear at a distance of about eighteen feet. $C^1=256$ fork, when held directly behind auricle on mastoid in the height of upper wall of meatus, heard not so long in right ear as in left ear.

Blake's fork 512 VS, heard 6–7″ by bone-conduction. Same condition in both ears. Galton: 0.0 right ear; 0.35 left ear. Weber lateralized on right side. Rinne positive on both sides. No nystagmus. Both drum-membranes are somewhat retracted, and no light reflex is visible. Noises: All the time hissing noises, of different tones, in right ear, especially when lying down. When a draught strikes her neck, and when she lies down on anything that shakes, she feels dizzy. Even now, at times, she has the dizzy feeling when she turns to the left. When she turns her eyes up, she feels as if she were going to fall, and she says she can never look up high. Even now, she says, she does not dare turn to left side; if she tries, she feels like getting unconscious. She can turn to the right side only by degrees. Every time when she gets dizzy she has a desire to urinate.

Some nights she had to hold herself in order to assure herself that she was in bed. She thinks it is partly imagination. When it is dark, she thinks, it is worse.

Never had any headache, although, as mentioned before, head felt big like a "bell," and dull. She imagines that there is a blood clot or a piece of bone somewhere on the brain about one inch above right auricle.

The family physician, in Detroit, reports that there does not exist any organic heart lesion at present, and there is no sugar or albumen in urine.

In reviewing the case we have prominently before us the following points:

1. Patient says that she never had any symptoms on the part of her ears before she met with an accident fifteen years ago.

2. An injury to the right side of the head; depression on cranium.

3. Disturbances on the part of the ear dating from the time of accident.

4. Noises in the right ear.

5. Somewhat shortened bone-conduction for $C^1 = 256$, compared with left side.

6. The occasional feeling of faintness when turning to the sides, especially the left.

7. Disturbance of equilibrium when looking up.

8. The feeling of nausea when suddenly raising herself in bed.

9. The feeling as if sinking down in bed at time of accident.

10. Polyuria during attacks.

Some light is thrown on lesions of this character, and of other origin, by Dr. Loewenberg in his article, "D'une forme particulière de vertige auriculaire." Extrait du *Bulletin Médical* des 26 et 30 Août, 1891:

"In so far as true diseases of the nervous system are concerned, it is scarcely necessary to remember that a shock which suffices to provoke grave and lasting disorders with some people can leave unhurt individuals with stronger nerves and less great impressiveness. . . ."

". . . Among the victims of a railroad disaster, some experience only a more or less great fright, whereas others affected with a constitutionally defective nervous system, especially hysteria, become attacked by traumatic neurosis (railway spine and railway brain), spinal and cerebral troubles caused by the accident."

He speaks of the acoustic hyperæsthesia without disturbances of the equilibrium. "It seems," he says, "that with these individuals the cochlear branch of the acoustic nerve is affected, not however the vestibular branch, which governs equilibrium." He further states that if those generalities are not satisfactory he could suppose an excess of tension in the cerebro-spinal fluid or a certain narrowness of the aquæductus cochleæ.

Dr. Stenger, in the *Berliner klinische Wochenschrift*, No.

5, 1903 (February 2, 1903), speaks of the importance of considering the ear in traumas to the head, and I refer you to his article, "The Value of Otitic Symptoms as to the Diagnosis of Injuries to the Head, in Particular Basis Fracture," as justice can only be done to it when extensively quoted.

The following may be regarded as affections which may attract our attention prominently while deciding about the nature of the injury and subsequent disturbances in our patient:

1. Affection of the cerebrum, the cerebellum, the medulla, and the dura.
2. Meningitis.
3. Lesion in the origin, course, and distribution of the acoustic nerve.
4. Lesion of the organ of equilibrium.
5. Lesion of the perceptive apparatus proper of the inner ear.
6. Narrowing of the aquæductus cochleæ.
7. Lesion of the middle ear.
8. Ménière's disease.
9. Traumatic neurosis.
10. Affections of other organs (heart, stomach).
11. A combination of some of the before mentioned affections.

SUPPLEMENT: July 24, 1903.—The patient reports that she has not had the feeling of faintness when turning sideways since December. Also the disturbance of the equilibrium when looking up did not appear since last winter. While she could not lie on an elastic sofa when she came to Detroit, she is able to do it now, and she does not become nauseated when she raises herself suddenly. The patient thinks that the summer always agrees with her better.

REPORT OF THE MEETING OF THE GERMAN OTOLOGICAL SOCIETY IN WIESBADEN, MAY 29 AND 30, 1903.

By Dr. HARTMANN.

The President, Professor KOERNER, opened the meeting and brought to the memory of the Society the names of Drs. Schwendt and Kieselbach, who had died during the past year. He further stated that otology was slowly making its way to a similar position with the other special branches. A new ear clinic has been opened in Heidelberg, and the second full professorship in otology in Germany has been established.

The number of members is now 279. The library has received numerous additions.

Berlin was chosen for next year's meeting; Professor LUCAE to be presiding officer. Professor SIEBENMANN will read a report on the anatomy of deafmutism. Dr. HARTMANN's proposal that a composite work on the anatomy of deafmutism be issued by the Society was accepted.

1. DENKER reported on **stapes-anchylosis.** After a short historical survey of the cases of bony stapes-anchylosis which had appeared up to the year 1885, the speaker said that in that year our knowledge of stapes-fixation had been considerably furthered by the publications of Bezold, as this author was able to examine anatomically a case which had been studied clinically, and showed that fixation of the sound-conducting apparatus caused a negative Rinne. With aid of a large number of illustrations, the histological changes in the stapes, in the annular ligament, and in the labyrinth capsule were demonstrated and the results of these examinations explained.

In all cases of bony stapes-fixation, the normal bony structure of the stapes and of the bone surrounding the niche of the oval

window were converted into osteoid, then rarefied, tissue. In some cases the annular ligament was completely converted into new-formed bone, while in other cases the stapes was connected to the window-margin by osseous bridges.

As regards the starting-point of the bone disease, there are two possibilities. The beginning of the bony process may be secondary to a previous inflammatory condition of the middle-ear mucous membrane, or the disease may begin primarily in the bone or periosteum. According to the author, it seems quite probable that a middle-ear affection can lead to an ossifying periostitis and cause the transformation into bone, and he thinks that this is quite probable on account of the frequent association of the two morbid processes.

This, however, leaves unexplained the origin of the rarefying process in those cases where no change is found in the tympanic mucous membrane which can be regarded as the residue of preceding inflammations. In these cases a primary disease of the periosteum or of the bone seems to be reasonable. A number of cases where isolated foci were found in the cochlea, which were not in connection with the other areas and did not extend to the tympanic mucous membrane, make it probable that rarefaction may take place without affecting the periosteum. In general the new-formed bony tissue has extended to the periosteum of the tympanic cavity or to the vestibule.

The question of the etiology of this rarefying process in the labyrinth capsule is partly answered by statistics, which show that bony stapes-anchylosis usually occurs in women, where the disease appears to originate with pregnancy or the puerperium. As is well known, ear disease in general affects the male in three-fifths of the cases and the female in only two-fifths. This, however, only explains some of the cases, and the author agrees with Katz and Schwartze, who assume that a constitutional anomaly must be present. This latter view is favored by the fact that the disease usually develops simultaneously on both sides, and that the degree of deafness in many cases is the same on both sides.

The diagnosis of the uncomplicated stapes-anchylosis is not difficult, given the history, the objective and functional examinations. If the Eustachian tube is patent and the picture of the drum-membrane is normal, the diagnosis of stapes-fixation is probable when the functional examination, in the presence of decided diminution of hearing for speech, shows the symptom-

complex of Bezold—shortening of the lower tone-limit, prolongation of bone-conduction, negative Rinne. The cases where this clinical picture was present have at autopsy always confirmed the diagnosis.

In regard to the treatment the author thinks that all local treatment, from the simple Politzer douche to extraction of the stapes, has given such poor results that its employment cannot be recommended, especially as the condition has been made worse by treatment in some of the cases. The very annoying subjective noises in some cases where other means have failed have been favorably influenced by electromotor massage of the drum-membrane and even caused to disappear for a greater or shorter length of time.

2. PANSE demonstrated **microscopic specimens** and drawings of cases which had been examined functionally and of the ears of two deaf-mutes.

3. BEZOLD: The **hearing examination with tuning-forks** in **unilateral deafness** and the deductions which can be drawn therefrom for bone-conduction and the function of the sound-conducting apparatus.

Bezold showed six years ago that the hearing remnants found in cases where the labyrinth had been destroyed on one side were an exact picture of the hearing of the other ear, which could not be excluded in examining the upper portion of the tone scale.

As this picture is a definite reproduction of the hearing of the other ear, the diagnosis of one-sided deafness no longer causes any difficulty. The author described the result of examining the patient with a defective labyrinth on one side with a continuous tone-series to show the presence of a direct bone-conduction of air sound-waves through the bone to the labyrinth, and concludes that such a direct conduction does not exist, and that there is no hearing for the lower half of the tone scale without a tympanic membrane and an ossicular chain, and that in the case of the upper part of the scale the sound waves are transmitted to the labyrinth by vibrations of stapedial foot-plate.

4. WANNER spoke on the **functional examination** in **labyrinth necrosis** and **one-sided deafness,** a contribution to the diagnosis of labyrinth suppuration and one-sided deafness.

The report consists of 27 functional examinations of 22 patients. In 50 % of the cases labyrinth-suppuration was the cause

of one-sided deafness. In 2 a labyrinth-sequestrum had been exfoliated. In the other 11 cases primary disease of the inner ear was present in 3.

The hearing charts of the two cases of labyrinth-necrosis were described. In one of these, in which the other side was perfectly normal, the continuous increase of the hearing perception, from the lowest to the highest tones which are perceived by the deaf ear, was present, as has already been described by Bezold in labyrinth necrosis. The lower tone-limit was *d* sharp, the first unloaded tuning-fork to be perceived was *c;* then the hearing perception for the various tones diminished.

A similar condition was found in the second case. Though corresponding to the defect in the hearing ear, the hearing perceptions on the deaf side were in general very much shortened.

The average of the hearing charts in six cases was demonstrated where, according to the tests of Lucae-Dennert, one ear was deaf for speech and the other ear was practically normal. This average agrees with the conditions found in the aforementioned first case, and the function of this ear, deaf for speech, was completely destroyed. The amount of hearing perceived by a deaf ear depends upon the hearing ear. This is especially well shown in cases where the hearing ear presents large defects.

The diagnosis of one-sided deafness can be made when

(1) In the examination of the hearing duration the above-described continuously ascending condition from the lowest to the highest perceived note is present, and when by marked diminution for some tones on the hearing ear a corresponding diminution or absence is found for the deaf ear.

(2) For the case when the middle tone of the scale a^1 of 435 double vibrations is no longer perceived per air.

(3) When the voice is not perceived or, as in the Lucae-Dennert test, the hearing is the same when both ears are closed as when the deaf ear alone is open.

(4) When the lower tone-limit is situated in the small octave or in its neighborhood, though never lower than *d* sharp.

(5) When Weber's test with *A* and *a* is transmitted to the healthy ear; and

(6) When Schwabach's test is abbreviated.

5. Lucae: On the **relation of tone hearing to speech hearing.** The following case confirms the recently published observation of the author that perception of the most important

musical tones is only of value to voice hearing when these are perceived as such and not as noises:

A musical man, twenty-six years old and otherwise healthy, was always hard of hearing on his right ear, and seven years ago after a cold bath lost the hearing for voice on his left ear with constant tinnitus. Objective condition of both ears was negative.

Right: whisper at ear fork c^4 per air $= \frac{0}{60}$; fork c per bone $= \frac{10}{18}$; c air $= \frac{36}{60}$; c^3, c^2, c^1, and c were perceived as musical tones; C and contra G uncertain whether as noises or not.

Left: loud voice heard as individual sound; c^4 air $= \frac{8}{60}$; c not determinable on account of tinnitus. All tones from c^3 to c as tinnitus: C and contra G not perceived.

The unquestionable labyrinth disease was treated with a pilocarpine cure; whisper on right side improved, numbers were heard at 0.6*m*. The right ear was treated with the pressure probe for four months. Then whisper in 2*m*; c bone$=\frac{12}{18}$; c air$=\frac{42}{60}$; but c^4 unchanged $=\frac{0}{60}$. The improvement after treatment with the pressure probe is explained by the presence of an associated right-sided disease of the sound-conducting apparatus. To support this a case is cited where with a positive Rinne the autopsy showed a diminished mobility of the stapes from rigidity of the annular ligament.

6. Ostmann: On the **amplitudes** of Edelmann's C and G **forks** as **objective, uniform hearing measure.**

All investigators who have examined the objective, uniform hearing measure have found it essential to determine experimentally the curves of cessation of the unloaded C and G forks from the large to the 4-crossed octave.

Ostmann has succeeded in solving this problem for the latest Edelmann's forks and so that those amplitudes not directly examined could be determined by interpellation.

The curves of cessation of the forks C, G, c, g, could be measured to the point of the threshold value, but in the higher forks a part of the curves were unmeasurable on account of the smallness of the amplitudes. With aid of the law of the normal threshold values, these curves could be completed to the point of normal amplitude, and thus the question was completely solved.

The curves of cessation were demonstrated on an enlarged scale, 40:5000 to 1. By means of these curves, tables of amplitude and hearing tests for the forks C, G, c, g, c^1, g^1, c^2, c^3, c^4, could be

made, which gave for every second of the cessation: (1) the extent of the amplitude; (2) the extent by which the amplitude diminishes compared to that of the preceding second; (3) the number of normal amplitudes contained in the amplitude.

The last statement permits the objective measure of the hearing power of the diseased as compared to the normal ear. The table also permits the representation of the hearing of the diseased ear as a part of the normal hearing, as the hearing power is inversely to the squares of the amplitudes.

7. BENNINGHAUS. A study of sound conduction based on the **anatomy of the ear of the whale.**

DISCUSSION TO THE PRECEDING SEVEN PAPERS.

HINSBERG: Histological examination of infected labyrinths has shown an uneven distribution of the morbid disease, so that it is not unusual that a labyrinth infection does not lead to complete deafness. The presence of hearing islands in deaf-mutes also speaks for this.

KUEMMEL maintains that in stapes anchylosis the local cause should be inquired into—that is, venous stasis in the tympanic cavity.

KRETSCHMANN found in persons suffering from sclerosis the specific gravity of the urine to be increased, with an absence of sugar and albumin.

ESCHWEILER reported on the hearing examination in one case of unilateral deafness. On closing the healthy ear, the lower tone-limit descended from *d* sharp to d^1 sharp.

SIEBENMANN says in 100 ear patients there is 1 suffering from stapes anchylosis; the drum membrane in most cases is unchanged; the redness of the labyrinth wall shines through in the region of the oval window.

SCHEIBE: According to statistics, sclerosis occurs more frequently in women than in men. On the other hand, middle-ear disease in general attacks the male more frequently. The cause for stapes anchylosis is not yet known. He would like to ask Siebenmann what the results of his treatment with phosphorus have been.

SIEBENMANN replied that about 50% of his patients had been treated with phosphorus. The result with regard to diminution of hearing had been a very satisfactory one. The dose is $2 \times 10g$

of the Kassowitz solution or $2 \times 1g$ of an oily solution, and must be continued for from 2 to 3 years.

PANSE found osteophytes in the tympanum during the puerperium; variations in hearing may be produced by changeable thickenings of the membrane of the round window.

BLOCH found stapes anchylosis combined with a labyrinth affection in most cases. Occasionally the labyrinth affection is bilateral and the stapes anchylosis is only on one side, which speaks for primary disease of the labyrinth capsule.

SPORLEDER gives phosphorus in larger doses, viz., of 0.02–0.025: 100.0 solution (dose 2 to 3 teaspoons). He reports a very favorable case.

MANASSE has examined microscopically 13 temporal bones with chronic progressive deafness, and found in 2 anchylosis from calcification of the labyrinth capsule; in 8 the labyrinth was atrophied.

8. MOXTER presented a patient suffering from a very **severe middle-ear tuberculosis.** The patient was forty-five years old and at the operation the bone was found destroyed up to the sinus and the dura, with facial paralysis. Recovery took place after a radical operation and the application of concentrated solutions of chloride of zinc. The facial paralysis disappeared.

Discussion.—KIRCHNER has had favorable results with a similar treatment.

9. SCHEIBE: **Deafness in furuncle of the auditory canal.** In furuncle of the canal, deafness may be produced either by occlusion of the lumen or by patent lumen through collateral œdema of the tympanum. This form of deafness in furuncle is not at all rare, though often not recognized. Scheibe has observed 304 cases of furuncle; in these the hearing was tested of 149 cases. Of these, 64 heard not quite normally. In one-half, the hearing distance for whisper was 3 to $6m$; in one-quarter, $\frac{1}{2}$ to $3m$; and in the remaining one-quarter, under $\frac{1}{2}m$. The greatest diminution in previously normal hearing was whisper in 20 *cm.*

The lower tone-limit, bone-conduction, and Rinne's test are similar to acute middle-ear inflammation. On catheterization, the air enters the middle-ear without any râles and the hearing is decidedly improved. Prognosis is favorable.

Discussion.—JOEL believes that the above-described symptoms are those of a simple ear-catarrh.

10. SIEBENMANN brings a contribution on **congenital labyrinth anomalies.** The specimens are very similar to those of

the deaf albinotic cat. The changes can be regarded as compression of the labyrinth vesicle by the bony capsule.

11. KRETSCHMANN: Formation of **bone in the tympanic cavity** of a boy, eleven years old. He had suffered from otorrhœa and abscesses since his first year. A concretion as large as a pea was found imbedded in granulations. A description of the chemical and microscopical examination is added. The name otolithiasis, proposed by Bezold, seems proper.

12. BRUEHL: **Pharyngeal tonsil and auditory organ in idiots.**

Among many interesting details, this author found that 75 % of the idiots suffered from enlarged pharyngeal tonsils; 28 % with enlarged faucial tonsils. The drum membranes were normal in 32 %; 5–7 % suffered from chronic otorrhœa and 14 % from the sequelæ of suppuration; in 306, 36 % heard under 8*m*; 22 % under 4*m*; 20 % heard with both ears under 4*m*. These high figures for enlargement of the pharyngeal tonsil are explained by the idiocy—viz., the carelessness and indolence. Though ear and nose diseases are not etiologically important for idiots, they may be, nevertheless, injurious to these patients.

This is especially evident by the unusually large number of deaf persons in the poorer classes of the idiot schools as compared to the small number in the better classes.

The bodily harm to which the idiots are exposed by their nose and ear troubles should not be lost sight of.

13. MANASSE demonstrated **microscopic specimens** of **purulent inflammation of the labyrinth.**

14. RUDLOFF: **The course of the sigmoid sinus in the temporal bone of the child.**

According to Macewen, the course of the sigmoid sinus in the adult is shown by a line which connects the deepest part of the parietal incisure of the temporal bone with the apex of the mastoid process. The author can confirm the correctness of this statement after having examined a great number of skulls in the museum at Marburg.

The conditions in the child, however, are quite different and are not mentioned in literature. In the temporal bone of the child, the anterior margin of the sigmoid sinus is posterior to Macewen's line to a varying extent. To explain this course and to show the development of the mastoid process, the author demonstrated five skulls of children of different ages.

15. HÖLSCHER demonstrated the **operating towels** which he had already described, and which, while assuring thorough asepsis, prevent the soiling of the occiput and back of the neck with blood or pus.

16. HAUG: After reporting the twelve cases of **gangrene of the auricle** which are found in literature, the author presents two further cases occurring in two sucklings. They presented very highly developed pædatrophy and gangrene of the auricle. The one child was ten weeks old, and both auricles were symmetrically gangrenous, and there was a large gangrenous ulcer on the right half of the neck. The other child was six weeks old and presented the signs of gangrene only on one side.

The author believes that the condition is due primarily to the pædatrophy, and secondarily to a secondary infection of an eczematous condition of the ear region.

17. FRIEDRICH spoke on **disease** of the **maxillary joint** from caries of the anterior wall of the auditory meatus.

18. WINKLER describes the exposure of the tympanal tuba ostium in connection with the radical operation.

19. WITTMAACK demonstrated microscopic specimens of **acoustic neuritis** with involvement of the cochlear nerve and of the spiral ganglion in tuberculosis.

20. ROEPKE: **Hysteria** as a sequence or accompaniment of **aural suppuration.**

Cases which develop hysteria during the course of otorrhœa are not unusual. A number of factors can be made responsible. The nervous system of a patient suffering from otorrhœa may be damaged through irrigations, cauterizations, and curettings. In a similar way the trephining of the mastoid process and the after-treatment may act injuriously. The important moment for the development of the hysteria is the anxiety of many people suffering from otorrhœa that an intracranial complication may terminate their life. The hysterical symptoms may in these cases simulate intracranial disease. The differential diagnosis is then discussed and five cases are reported; in each, hysteria has set in gradually or suddenly during otorrhœa.

21. HEINE: **Amnesic aphasia and hemiopia in abscess of the right temporal and occipital lobes.**

A man, thirty years of age, with right-sided fetid chronic otorrhœa, was admitted to the royal ear clinic in Berlin. At the operation, a broken-down cholesteatoma was found, a sequestrum

in the antrum, and the dura exposed; three days later, pronounced and amnesic aphasia, agraphia, alexia, and paraphasia. The patient is right-handed. The operation exposed a small deep-seated abscess in the temporal lobe. The aphasia disappeared. After fourteen days, the same symptoms recurred with the appearance of general cerebral compression and hemiopia. The wound in the brain was dilated and three to four tablespoonfuls of fetid pus were evacuated. The improvement was followed fourteen days later by severe headache, vomiting, general prostration. The occipital lobe was exposed and an empty cavity found. A very large collection of pus was evacuated; the abscess extended in a median direction.

After ten days, another operation was undertaken on the brain. The brain substance was found partly softened, but no pus. After this, two attacks set in, a very severe headache, vomiting, and general collapse, which lasted for twenty-four hours.

Four months after the first operation, the patient was discharged cured.

This is the first case in which in a right-handed patient disturbances of speech were found in an abscess in the right temporal lobe, and shows that in cases of double-sided chronic otorrhœa with aphasic symptoms it is not always proper to operate only on the left side.

Discussion.—KOERNER: The "distant action" is not rare in cases of small abscesses, though it may be absent in large abscesses. It is probably due to slight encephalitis.

PASSOW found this substantiated in two cases.

22. BLOCH recommends **scopolamin narcosis** for lengthy operations. Three subcutaneous injections of one gram each are made of the following solution: scopolamin. hydrochlor., 0.012; morphin. hydrochlor., 0.12; aqu. dest., 10.0; the first injection four hours, the second two, and the last one hour before the operation. If any pain is felt during the operation, the chloroform mask is applied for a short time. There is no reaction on awakening.

Discussion.—WOLF questions the advisability of scopolamin in children.

23. ESCHWEILER: **Transplantation and first dressing after the radical operation.**

Vioform gauze prepared according to Schmieden is recommended for packing. The first dressing remains for fourteen

days, and in five cases the transplanted skin healed. The retro-auricular wound is sutured primarily. Transplantation is contra-indicated on exposed dura or sinus. This odorless gauze works very well in the after-treatment.

In the discussion, WERNER, SIEBENMANN, and SCHEIBE report favorable results with vioform gauze.

24. HOELSCHER spoke on **pus retention** and extension of the purulent process in **sclerosed mastoid processes.**

25. KREBS: **The preparation for and after-treatment of intranasal operations.**

26. WINKLER: **On the surgery of maxillary empyema.**

REPORT OF THE TRANSACTIONS OF THE NEW YORK OTOLOGICAL SOCIETY.

By T. PASSMORE BERENS, M.D., Acting Secretary.

MEETING OF MAY 26, 1903. THE PRESIDENT, DR. J. B. EMERSON, IN THE CHAIR. DR. LUC OF PARIS AND DR. BRYANT OF BOSTON, GUESTS.

Presentation of Patients.

Dr. Gruening presented a patient on whom he had successfully operated for **brain abscess.** The patient—a boy thirteen years old—presented himself at the Mt. Sinai Hospital on April 15th with a temperature of 102° F. He had been sick for four weeks, and had had a discharge from both ears for six years. The right ear was quiescent, the left was discharging fetid pus and cholesteatomatous masses. The mastoid region was red, œdematous, and tender to pressure. Shortly after admission, he had a severe headache on the left side, a chill, and a temperature of 102° F. A radical mastoid operation was performed. Extensive caries was found, which involved the upper posterior bony wall of the external auditory canal. The malleus and incus were absent, and the antrum, which was much larger than usual, was found filled with cholesteatomatous material. The tegmen of the antrum was carious and the dura mater was covered with granulations. The wound was dressed in the usual manner and the patient did well. Eight days after the operation, the patient vomited and had a severe headache on the affected side. The temperature was normal and the pulse ranged from 48 to 54. The eyes were examined: the papillæ were swollen, presenting the appearance of a neuroretinitis. The next day, April 25th, the symptoms were more pronounced, but there were no localizing symptoms and no sensory aphasia. The wound was reopened, and under antisep-

tic precautions the dura was exposed over the roof of the antrum, beneath the temporal ridge and part of the squama. No fistula was found in the dura, but there was a marked discoloration over the antrum. The dura was punctured with an aspirating needle through the discolored spot. After the needle had perforated one inch, a syringeful of fetid pus was withdrawn. A crucial incision was then made through the dura, which permitted evacuation of about two ounces of pus. The finger was then introduced and a large abscess cavity found. The wound in the brain was enlarged with forceps and packed with strips of gauze. The gauze used was about half an inch broad and had a selvage on both edges to prevent ravelling. Immediately following the evacuation of the pus, the pulse rate rose to 100. The day following the operation, the patient developed sensory aphasia, but felt better. The wound was dressed. Pus and a considerable quantity of serum followed the removal of the dressing. On the two succeeding days, pus and serum exuded on the removal of the dressings. Since that time the patient has made an uninterrupted recovery. The mastoid wound is nearly healed, and the patient has no other symptom than the optic neuritis, which still persists.

Dr. LUC asked Dr. Gruening if dry gauze only had been used in the packing of the brain abscess, for he had found that moist gauze was better. Dr. GRUENING answered that he had used only ribbons of gauze as drainage, that they were inserted dry, but that the external dressing had been of moist gauze, so that the ribbons doubtless became moistened.

Dr. PHILLIPS presented a patient suffering with **double facial paralysis** together with other symptoms of a **tumor in the pons Varolii,** probably specific.

Dr. SHEPPARD presented a patient—male, six years old—on whom he had performed a radical **Schwartze-Stacke** operation on the right ear seven weeks before, at the same time doing an ossiculectomy in the left ear and removing adenoids. He presented the patient to demonstrate the value of a **large canal opening,** to obtain which the horizontal incision was extended well outward into the concha, most of the posterior surface of which was thrown upward to form the roof of the operative canal. The patient's wound was almost completely dermatized.

Dr. KIPP asked what the after-treatment had been, and Dr. SHEPPARD answered: " Tight packing with oxide of zinc gauze for ten days and later with plain sterile gauze."

Dr. LUC congratulated Dr. Sheppard on the result, and mentioned the advantages of the radical operation. He spoke of a flap operation performed by Dr. Berens that he thought would materially shorten the after-treatment in these cases.

Dr. BERENS described a **plastic operation** as follows: The first incision is made at the hair-line; the skin and superficial fascia are then dissected from the periosteum to the posterior attachment of the auricle, where the periosteum is divided, and the auricle is pushed forward. After the radical operation on the bone has been performed, a Koerner flap is cut from the posterior membranous canal wall in the usual manner. An inverted comma-shaped flap is then cut from the tissues previously dissected from the soft parts behind the auricle. The *tail* of the comma forms a pedicle from which the skin is removed, leaving a thick mass of subcutaneous tissue. The skin remains on *the head* of the *comma*, but the superficial fascia is removed from it. Thus a large growth of skin is nourished by a pedicle of superficial fascia. The skin portion of the flap is then used to cover in the middle ear, the attic, and the antrum, and it is stitched to the cut edge of the superior wall of the membranous canal. This skin-graft is then packed firmly into the cavity, and it should be sufficiently large to cover the whole cavity. It is held in place by a very tight gauze packing. The Koerner flap is then placed backward and is used to cover the auricle beneath the concha. The wound posterior to the auricle is then sutured. The dressings are not disturbed for ten days or more. They are renewed once or twice only; and in successful cases the after-treatment extends over a week or ten days after the permanent removal of the dressings.

Dr. KENEFICK asked whether this operation was used where pus was found. Dr. BERENS answered that this procedure was followed in the cases where a radical operation was performed for chronic suppuration, where the wound was clean, and that where the wound was not clean the flap was done as a secondary operation.

Dr. TOEPLITZ presented a patient—male, twenty-three years old—with **secondary hemorrhage** from the tonsil, persisting three weeks after incision for peritonsillar abscess. The bleeding was controlled by packing the abscess sac with gauze.

Dr. QUINLAN stated that he used sutures to control tonsillar hemorrhage. Dr. GRUENING objected to patients' being kept in recumbent position in cases of bleeding from the nose and throat.

Dr. PHILLIPS exhibited a colored woman, age thirty-six, with a specific history, who presented a **double bilateral facial paralysis,** a bilateral partial deafness, with complete loss of bone-conduction, with staggering gait, and other nervous phenomena indicative of a lesion in the pons. She had been improved by anti-specific remedies.

Presentation of Specimens.

Dr. PHILLIPS presented a **temporal bone** with the **dura mater** attached, which he had removed at autopsy from a case of **purulent leptomeningitis.** He first saw the patient May 7th. There was a history of chronic suppuration that had been healed for several years. For the past few days there had been considerable pain and tenderness in the ear, posterior to the mastoid. The patient refused to go to bed until the 9th of May, when there was a slight redness noticed in the attic. The tenderness and pain were worse. Ice-coil was applied. On the 10th of May, in the evening, there was a chill, and the temperature rose to 105° F. It then dropped to normal, and the patient slept all night. On the 11th of May, the mastoid was opened; the entire tegmen tympani et antri was necrosed, as was also the bony covering of the lateral sinus. The latter was uncovered and found bulging and pulsating. It was not opened. The next day the patient was better, but there was a profuse serous exudate that saturated several dressings. The temperature rose to 106° F. The patient became delirious and drowsy. The patient was etherized, and examination of the wound revealed a small perforation through the dura mater just in front of the knee of the lateral sinus. No pus was found through this perforation. The lateral sinus was opened and a clot removed. No pus was found in the sinus. The patient died next morning, without having regained consciousness. The autopsy revealed a general **leptomeningitis,** which was more pronounced at the seat of the perforation in front of the knee, and the dura adherent over the entire cortex.

In the discussion, Drs. GRUENING and DENCH condemned the use of the ice-coil.

Dr. SHEPPARD reported a similar case with a perforation through the dura immediately in front of the knee of the lateral sinus, with an intra- and extradural abscess.

Dr. HARRIS asked how long Dr. Phillips had applied the ice-coil. Dr. PHILLIPS replied: "Eighteen hours only." He rarely

uses the ice-coil, but thought this case was one of simple congestion, not at first suspecting its gravity.

Dr. DENCH reported a case of **acute suppuration of the middle ear** with a discharge immediately following paracentesis, showing diplococci and a large bacillus that was found to be that frequently discovered in hay and decaying vegetable matter. He believes that this bacillus found its way into the ear by the patient's having used mullen-oil for the relief of her pain.

Dr. QUINLAN reported a case of **continuous pain deep in the bone over the mastoid region** in a young woman who had an acute middle-ear suppuration some three months ago. At present the drum-membrane was healed; there was no redness, but some tenderness upon deep pressure, with a slight œdema over the tip. It was evidently a case of **osteosclerosis,** but the question was: Is it wise from these symptoms to open up the mastoid, and can we give assurances of relief by such measures?

Dr. GRUENING thought this might be a case of **osteosclerosis,** and referred to a patient he had seen with Dr. Berens two years ago.

Dr. BERENS thought Dr. Quinlan's case was one of **mastoiditis** with **osteosclerosis,** requiring an operation. He stated that the case referred to by Dr. Gruening was one of **osteosclerosis** in both mastoids of a female about twenty-five years old. She was of a peculiarly neurotic type. Her only symptoms were pain on deep pressure and a constant excruciating pain in the mastoid. There were no other signs whatever of inflammation. There was an uncertain history of suppuration in early childhood. Both mastoids were opened: no pus was found, but the bone was extremely hard and flinty in spots, and many of the pneumatic cells contained osteophytic deposits which in appearance were suggestive of stalagmites and stalactites. Doubtless the pressure caused by these deposits had caused the pain. The patient made an uninterrupted recovery. There has been no return of pain in the two years elapsing since the operation.

Dr. HARRIS, in the discussion, reported a case of **sclerosed mastoid** in a neurotic girl on whom he had operated, relieving her of pain for three months. The pain returned, however, and was much more severe than before, and was cured by medicinal treatment at the hands of a neurologist. The pain again returned after six months and was again treated in a similar manner. She has had no return of pain for more than a year.

Dr. SHEPPARD asked Dr. Quinlan whether his patient had had mastoid symptoms at the time he saw her. The answer was "Yes,"—but that these symptoms had disappeared after treatment.

Dr. DENCH thought the case should be operated on; that it would be much safer, under the circumstances, to operate than to permit the patient to go without operation.

Dr. KENEFICK spoke about the possibility of the case being one due to dental neuralgia. Dr. QUINLAN answered that there were no carious teeth.

Voluntary Contributions.

Dr. BERENS reported **a rare arterial anomaly,** consisting of the presence of a large main-trunk artery accompanying and immediately anterior to the lateral sinus from the jugular bulb upward to the knee of the sinus, where it curved backward for half an inch, at which point it again took an upward course. The diameter of this vessel was that of an ordinary lead-pencil. It pulsated, and compression of the common carotid caused this pulsation to cease entirely. The anomaly was viewed by the president of the Society and several of the surgeons of the Manhattan Eye and Ear Hospital. The condition was discovered while performing a mastoid operation in which there was an unusual destruction of bone. The patient recovered.

SYSTEMATIC REPORT ON THE PROGRESS OF OTOLOGY FOR THE THIRD AND FOURTH QUARTERS OF THE YEAR 1902.

(*Continued from page* 253.)

NOSE AND NASO-PHARYNX.

a—GENERAL PATHOLOGY AND SYMPTOMATOLOGY.

235. **Frankenberger, O.** The upper air-passages in school children. *M. f. O.*, 1902, No. 5.

236. **Harmer, L.** On the pathology of the so-called bone cysts of the middle turbinate. *Arch. f. Laryngol.*, vol. xiii.

237. **Pitous.** On dysmenorrhœa of nasal origin. *Thèse de Bordeaux*, 1902.

238. **Libow, B.** The connection of disease of the female genitals with diseases of the nose. *Russky Wratsch*, 1902, No. 44.

239. **Deodati, C.** A case of vertigo of nasal origin. *Archivio italiano di otologia*, vol. xiii, Div. 3.

240. **Kassel, P.** Nervous palpitation of the heart relieved by removal of the spur of the septum. *Arch. f. Laryng.*, vol. xiii.

241. **Wills, A. W.** On nervous and psychic disturbance in nasal disease. *Wien. med. Presse*, 1902, Nos. 47 and 48.

242. **Lannois.** Epilepsy of nasal origin. *Ann. des mal. de l'or., du lar.*, 1902, No. 7.

243. **Hahn, R.** A case of total anosmia following injury to the skull. *Bolletino dell' orecchio, gola e naso*, 1902, No. 9.

244. **Buvinger, Chas. L.** Extensive destruction of the nasal septum with involvement of the accessory sinuses, from sepsis. *Phila. Med. Journal*, Oct. 11, 1902.

245. **Hanszel, F.** Involution of a rhino-laryngeal scleroma by erysipelas of the face, and of a sarcoma of the pharynx by infection with streptococci. *M. f. O.*, 1902, No. 7.

246. **Aaser, P.** On the infectiousness of a discharged scarlet-fever patient. *Tidsskrift for den norske lægeferening*, 1902, No. 15.

247. **Kuster, K.** On the prevention of snoring. *Deutsche med. Wochenschr.*, 1902, No. 41.

235. 4777 school children were examined, between six and fifteen years of age. Of these, 68.8 % suffered from anomalies of

the respiratory passages. Deviation of the septum was present in 13.2 %. These were more frequent on the left than on the right side and increased steadily in frequency from the sixth year. Hypertrophy of the lower turbinate was present in 11.3 %; atrophic rhinitis was present in 28; of these, 8 were boys and 20 girls. The hypertrophy in the pharyngeal tonsil was thoroughly treated; it was present in 32.9 %. The result of the examinations showed that the elevation of the hard palate was not produced by hyperplasia of the pharyngeal tonsil. The disease appears to occur more frequently in the better situated classes. The higher grades of pharyngeal hyperplasia are, again, as frequent in children who do not get along well at school as in good scholars. It is to be remembered that an examination of the hearing showed that the poor scholars showed almost four times as many cases of deafness as those who got along well, so that it is probable that the non-progress in school was very apt to be the result of the hearing disturbances rather than the other disadvantages of the hyperplasia. PIFFL.

236. The histological examination of three bony cysts of the middle turbinate filled with pus and eleven filled with air. The bony cysts were observed clinically. They are congenital, growing very little. If, however, they are the seat of empyema, they may attain an excessive size. The internal mucous lining carries a shining epithelium and a very few glands. One should speak of "bony cysts" only when the turbinate is realyl enlarged by cavities. ZARNIKO.

237. In connection with the papers of Fliess and Schiff, and from the results of four observations, the author is inclined to believe that dysmenorrhoic disturbances may originate in the nose and can be improved by treating the nose. The author found a vaso-dilatation of the nasal mucosa in his patients and a tenderness at the "genital areas" of the nose. The application of cocaine did not work suggestively, because in one case it failed in an hysterical girl. ZIMMERMANN.

238. This is a report of a number of cases which confirm the well-known observations of Fliess on the favorable action of cocainization of the so-called genital areas of the nose.

SACHER.

239. The patient, twenty-six years of age, with syphilitic affection of the nose, suffered from violent headaches, vertigo, and vomiting. After the removal of the crusts which interfered with

the respiration, the vertigo ceased, but recurred as soon as the nose again became occluded. Thus, according to the author, the nasal origin of this vertigo is explained. RIMINI.

240. Palpitation produced on touching the septal spur in a patient, twenty-five years of age, and permanently cured after its removal. ZARNIKO.

241. According to the author, the various psycho-pathological conditions are the result of the combined action of the pathologic constitution of the blood and the lymph congestion in the cerebral lymph spaces caused by obstructing nasal affections. In general, the paper does not bring anything new. WANNER.

242. After extracting two polypi, the patient, twenty-nine years of age, suffered from convulsions, which lasted one minute and recurred upon the re-introduction of the snare. A smaller, though less marked, attack appeared some time later, when the other side was operated upon. The patient was probably an epileptic, as similar attacks had been observed before.

ZIMMERMANN.

243. A man thirty-one years of age suffered from total anosmia a few days after receiving a severe blow on the head. This was supposed to have been caused by a laceration of the olfactory nerve by a fracture of the base of the skull, which extended from the left side of the lamina cribrosa to the temporal bone. The author emphasizes the importance of an exact examination of the sense of smell with the olfactometer for the local diagnosis of the fracture of the base of the skull. RIMINI.

244. A man, æt. forty-two, had been operated on during an attack of acute rhinitis on a stormy night by means of the cautery on both sides of the nose and also the septum without aseptic precautions. Empyema of both Highmore's antra and of the left ethmoidal sinus with entire destruction of the vomer, perpendicular plate of the ethmoid, and half of the triangular cartilage ensued. M. TOEPLITZ.

245. A woman forty-eight years of age suffered from scleroma of the upper respiratory passages and was taken ill with facial erysipelas. This was followed by circumscribed infiltrations of the septum and the posterior surface of the soft palate, and the subglottic vaults became very much reduced in size. The formation of crusts ceased entirely. After eight days, infiltration of the larynx again took place.

A child four years of age apparently suffered from peritonsillar

abscess. Incisions gave a discolored fluid containing streptococci and staphylococci. The abscess perforated through the lower part of the ear canal; the middle ear intact; after fourteen days, no swelling in the pharynx; after four weeks, signs of peritonsillar abscess recurred. Excision of a tumor-like tonsil showed a round-cell sarcoma. A very rapid recurrence. Dyspnœa. Tracheotomy. Death after three months.

In connection with these two cases the curative action of erysipelas in malignant tumors is critically discussed. Much weight is laid upon the height of the fever. Injections of toxin influence the tumors only if very high fever occurs. BRÜHL.

246. The author believes that infectious material was contained in the secretion on the nasal and pharyngeal mucous membrane. Painting the mucous membrane with hydrogen peroxide is recommended as a diagnostic aid. If purulent secretion is present, violent development of the case results. MÖLLER.

247. KUSTER recommends a bandage which applies the lower to the upper jaw and thereby prevents a dropping of the lower jaw and snoring. The author agrees with the statement that children as well as adults snore only in the presence of nasal occlusion. In children, the snoring ceases after a few days if the adenoid vegetations have been removed. The bandage may even be of service in adults. It is, however, of no advantage unless the nose has been made patent.

b.—METHODS OF TREATMENT.

248. **Delie, I.** The application of paraffin in deformities and affections of the nose. Extrait des *Bulletins et Mémoires de la Société française d'otologie*, etc., 1902.

249. **Aue, G.** Correction of the saddle-shaped nose by subcutaneous injections of paraffin. *Russky Wratsch*, 1902, No. 34.

250. **Eckstein.** Subcutaneous and submucous hard-paraffin prothesis. *Deutsche medic. Wochenschr.*, No. 32, 1902.

251. **White, J. A.** A new operation for the deformity known as saddle-back nose. *Virginia Medical Semi-Monthly*, July 25, 1902.

252. **Kusmin, P.** A new method of restoring the destroyed nasal septum. *Medicinskoje Obosvenje*, 1902, No. 15.

253. **Brown, J. P.** Rubber splints in the treatment of septal curvature. *Laryngoscope*, Aug., 1902.

254. **Heininx, A.** On somnoform. *La presse otolaryngologique*, 1902, No. 9.

255. **Sswershewski, L.** The applications of hot air in the treatment of certain affections of the nose and throat. *Medicinskoje Obosvenje*, 1902, No. 12.

256. **Mygind, H.** A case of sudden collapse combined with stoppage of the respiration and cyanosis, following operative removal of adenoid vegetations; tracheotomy; recovery. *M. f. O.*, 1902, No. 5.

257. **Lowe, L.** Additional communications on the clearing out of the nose from the mouth. *M. f. O.*, 1902, No. 3.

258. **Lowe, L.** Additional communications on the clearing out of the nose from the mouth. *M. f. O.*, 1902, No. 10.

259. **Fein, J.** A new curette to remove adenoid vegetations. *Wiener klinische Rundschau*, 1902, No. 43.

260. **Kafemann, R.** On rhino-pharyngological operative exercises. *München. med. Wochenschr.*, 1902, No. 44.

261. **Eddy, J. W.** A new tongue depressor. *Medical Record*, Sept. 27, 1902.

262. **Mosher, H. P.** A self-retaining tongue depressor. *Boston Med. and Surg. Journ.*, Aug. 7, 1902.

263. **Alter, Francis.** A modification of Gersuny's method of paraffin injections in so-called saddle-noses to prevent disturbance of muscular action of the nose. *Amer. Medicine*, Nov. 22, 1902.

264. **Wilson, Harold.** A cork nasal splint. *Journ. Amer. Med. Assoc.*, Nov. 29, 1902.

265. **Robertson, Chas. M.** New instrument for the removal of the faucial tonsils. *Journ. Amer. Med. Assoc.*, Nov. 1, 1902.

266. **Powell, Arthur.** The hypodermic injection of a solution of quinine in malaria and ear symptoms. *British Med. Journal*, May 3, 1902.

267. **Lederman, M. D.** Clinical report on the use of argyrol (silver vitelline) in diseases of nose, throat, and ear. *Medical Record*, Nov. 28, 1902.

248. The author reports his experience with the Gersuny method of paraffin injections for nasal deformities and nasal diseases. Good results were obtained especially after operations for sinusitis and removal of the lower turbinate. The procedure in ozæna endeavors to overcome the unusual distance of the nasal cavity and to prevent the collection of crusts. A case of this kind is reported. The instrument and operative technique are described. RIMINI.

249. The author had tried Stein's method in one case: A quantity of paraffin at the melting-point (42° to 43°) was injected in three sittings under the skin of the nose, and while still in a warm condition the desirable form was obtained by manipulation with the fingers; it has not changed. The result of the injections was, as the illustration shows, very satisfactory. SACHER.

250. ECKSTEIN reports on the very satisfactory result which he, with Professor Wolff, obtained by the use of hard paraffin to improve nasal deformities, closed defects of the hard palate, etc. The hard paraffin has many advantages over the vaseline origin-

ally recommended by Gersuny: it does not melt below 57° or 60°, is easily sterilized, and coagulates in from one to two minutes into a bony, hard mass; it retains permanently any shape and is absolutely non-absorbent. As it coagulates instantaneously, the danger of pulmonary embolus is reduced to a minimum. Hard paraffin heated in a water-bath from 65° to 70° is drawn into a heated syringe and then injected at the desired place. In order to prevent a too rapid cooling, a rubber tube may be applied over the canula and the syringe. If in the case of cleft palate which is operated on after the second year and on account of the depth of the naso-pharynx the closure of the soft palate is an imperfect one, then the hard paraffin is injected in the posterior pharyngeal wall in the region of the Passavant ridge. Astonishingly good results are obtained in improving the speech; all forms of saddle-nose were very much benefited.

251. The author refractures the nasal bones when they have been displaced and brings them into place when they have healed. As a second step, he loosens the skin and subcutaneous tissue at the point of depression subcutaneously so that a probe can be passed from one nostril into the other over the triangular cartilage. Then the inferior lateral cartilage is split from without inward and up to its connection with the septal cartilage. This is done on both sides, leaving a flap hanging in each nostril attached to the angles formed by the septal cartilage and the cartilages of the ala. A thread armed with two needles is now passed through the end of the flap. The needles are then passed up through the gap made between the septal cartilage and the overlying soft parts and then through the superior lateral cartilage and the skin to the opposite side; by tying the two ends of the thread together over a roll of tape, the flap is pulled up into the gap between the skin and the cartilage. HURD.

252. Through the middle of the upper lip two vertical incisions are passed through its entire thickness, which do not, however, extend through the free border. The upper extremes of the vertical sections are connected at the base of the nasal entrance by a horizontal one. The flap thus produced, with its face down, is pushed up and attached by two or three sutures to the tip of the nose: one or two sutures are placed underneath the flap to unite the defect in the upper lip. In applying the dressing the upper lip is pushed upward after eight or ten days, and when the flap is sufficiently healed it is separated. The vertical in-

cisions are then continued up to the free border of the lip, the free border of the flap is renewed and stitched to the middle of the lower margin of the internal nose. The defect of the lip is overcome by suture. SACHER.

253. For deformities of the cartilaginous portion of the nasal septum BROWN finds rubber splints useful. The splints are cut from rubber sheeting $\frac{1}{8}$, $\frac{2}{8}$, and $\frac{3}{8}$ in. in thickness and the exact size and shape vary in each case. The method of procedure is to incise with a tenotomy knife, which is passed from behind forward in one or two straight incisions through the cartilage, they being a short distance apart and parallel. The incisions are usually made on the bevel so that their edges can glide over one another. A finger is passed into the nostril and the septum pressed toward the median line. A splint is now chosen that after insertion will produce slight pressure on both the inferior turbinates and the septum. There should be room enough above and below the splint to pass a pledget of cotton to clean the nostril. After insertion, the splint should be left in place until healing and solidity have taken place; this may take from two to four weeks. The nose should be cleaned and watched by the surgeon for several days and the case kept under observation until the splint is removed. HURD.

254. Somnoform consists of 60 % chlorethyl, 35 % chlormethyl, 5 % bromethyl. It is very volatile and is therefore very quicky absorbed and rapidly excreted. It is just like bromethyl, but is less poisonous; sleep is shorter than with this drug; unpleasant accidents are not to be feared; even vomiting after operation is rare; palatal and laryngeal reflexes remain. According to the author, somnoform is a distinct improvement over bromethyl. BRANDT.

255. The so-called Hollender's apparatus is used. The application of hot, dry air is useful in acute and subacute coryza, in ozæna, in gummata, and in neurosis. It is of less use in hypertrophy of the nasal tissues and in the atrophied processes of the naso-pharynx. In catarrh of the Eustachian tube, and in otitis especially, hot air is contra-indicated—it depends on the site and kind of disease. Hot air of 72° on passing through the nasal passages causes in from three to five minutes a contraction and drying up of the mucous membrane; at a temperature of 90° the mucous membrane dries out very completely, and at 130° a formation of crusts can be observed. SACHER.

256. A child, two years of age, with pronounced rachitis, suffered from diarrhœa and obstinate bronchial catarrh. The pharyngeal tonsil completely interfered with respiration and was removed with Beckmann's curette. At the same moment, collapse, cessation of respiration, and cyanosis set in. The extirpated tonsil could not be found nor detected by examination of the larynx. Respiration only resumed after tracheotomy had been performed. The author explains the collapse by the fact that the action on the central nervous system similar to shock takes place in rachitic children. The stoppage of respiration was due to spasm of the glottis. Based on this observation and others contained in literature, the author says that in the removal of the pharyngeal tonsils in rachitic children we must always be prepared to perform tracheotomy. PIFFL.

257. The operative procedure of this author has been previously described. After telling of the after-treatment and the results obtained by other methods of cleansing the nose, the description of the operated cases follows. There were ten cases. Five of these were operated by others on account of the removal of nasal and naso-pharyngeal tumors. The five operated on by this author are as follows:

(1) A badly necrosed carcinoma which caused death. (2) Nasal polypi with empyema of all the accessory sinuses. (3) Nasal polypi, with death nine days after operation from erysipelas. (4) A case of sarcoma (?) which recurred two weeks later. (5) Polypoid mucous-membrane degeneration with empyema in both antrums of Highmore. In this case, which was operated on twice, acute otitis on the left side set in after two weeks.

PIFFL.

258. A description of the technical peculiarities and report of five additional operations. Evisceration of the nose from the mouth and autopsy in the living—as the author chooses to call it—was undertaken in the first case on account of the general polypoid degeneration with multiple empyema. After operation, pyæmia was suspected; spontaneous loss of teeth after a few months; collapse of the polypi after one half-year.

(2) Ozæna, multiple empyema. Six months after operation, ozæna secretion without odor.

(3) Caries in the posterior part of the right nose.

(4 and 5) Nasal polypi.

The victims of this operative procedure are truly to be pitied,

especially as the symptoms of these patients could have been treated by the ordinary intranasal operations. BRÜHL.

259. As the handle of the curette is restrained in moving in its area by the maxilla, FEIN has displaced the lever arm externally to the teeth and has turned the shaft vertically on one side to the point of retention. The shaft is bayonet-shaped and is then bent sidewise. Three sizes are necessary on account of the varying height of the nasal pharynx. (The small bend in the sagittal plane has already been recommended by Bezold.) If the necessary force is used, the modification does not seem to be without value. WANNER.

261. The tongue depressor is constructed like a uterine dilatator with the blades spread, and it is only used in extracting foreign bodies. M. TOEPLITZ.

262. MOSHER's tongue depressor consists merely of a spring, one end of which catches the tongue from above and the other under the chin, steadying it well in the middle. It is applied and taken off by pressing on the two sides. The chin-piece is pivoted so that it can swing in a horizontal axis and catch on the side of the chin, in order to hold the tongue in place on the side. The length of the blade is made changeable. M. TOEPLITZ.

263. In order to overcome the paralysis of the muscular action of the wings of the nose after paraffin injections, resulting in impeded nasal respiration, ALTER corrected the condition by excecting the inner-posterior portions of the alæ of the nose. It can be prevented by firmly compressing the wings of the nose during the operation by an assistant, placing a thumb in each nostril, and making counter-pressure on the outside with the index finger until the nose has been moulded into its proper shape.
M. TOEPLITZ.

264. A hole is bored through a piece of cork with a perforator and the splint is shaped with a sharp knife according to the individual case and smoothened with file and sandpaper. It is then dropped into hot, melted paraffin. M. TOEPLITZ.

265. The pillars of the palate are separated from the tonsil with a blunt-pointed, double-edged bistoury curved on the flat. The tonsil is then grasped with a fixation forceps and removed with scissors, which are made in two sizes, rights and lefts, bent on the long axis with a double joint, and are curved.
M. TOEPLITZ.

266. POWELL states that quinine given hypodermically does not cause deafness and tinnitus in persons who suffer from these effects after the administration of even small doses given by the mouth.

The salt he most uses is the hydro-chlorosulphate, one part of which is dissolved in three or four parts of a 1:5000 solution of perchloride of mercury, the solution being boiled at least twice. He has used as much as 36 grains in one injection, and has always given at least 15 grains, while 18 grains have been given to a child of nine with none but good effects.

He would not give these large doses in the presence of hallux lobinuria, or to a person who had formerly had black-water fever. He prefers to inject the solution deeply into the flank or buttock, all antiseptic precautions being taken. ARTHUR CHEATLE.

267. A 50-per-cent. solution of argyrol was used in cases of chronic suppuration of the middle ear where there was a large perforation, no excessive granulations, and but little necrosis, and it was observed that the mucous membrane became paler and less boggy in appearance, and the discharge assumed more of a mucoid character. A saturated solution was used in attic suppuration without causing any discomfort. The writer thinks that argyrol possesses the good qualities of the silver nitrate without its unpleasant irritating features. CLEMENS.

c.—DISEASES OF THE ACCESSORY CAVITIES.

268. **Dempel, M.** On the diagnosis of inflammations of the maxillary antrum with Stein's needle. *Medicinskoje Obosvenje*, 1902, No. 8.

269. **Mosher, H. P.** The anatomy of the operation of reaching the ethmoidal cells through the antrum. *Amer. Jour. Med. Sciences*, Oct., 1902.

270. **Selensky, G.** On the complications of influenza. Disease of the antrum of Highmore in influenza. *Praktitschesky Wratsch*, 1902, No. 26.

271. **Sturmann, Dr.** On the treatment of empyema of the maxillary antrum. *Berl. klin. Wochenschr.*, 1902, No. 29.

272. **Strazza, G.** Abnormal case of chronic maxillary sinusitis. *Annali di laringologia ed otologia*, III Jahrg., No. 2.

273. **Reitter, C.** Empyema of the antrum of Highmore and acute peritonitis. *M. f. O.*, 1902, No. 2.

274. **Löwy, R.** Empyema of the maxillary antrum in diabetes. *Deutsch. med. Wochenschr.*, No. 27, 1902.

275. **Gerber, Dr.** My method of operation in chronic empyema of the maxillary antrum. *Deutsch. med. Wochenschr.*, No. 27, 1902.

276. **Struppler, T.** On rhinogenous purulent meningitis and cerebrospinal meningitis. *München. med. Wochenschr.*, 1902, No. 45.

277. **Gibb, Jos. S.** Sarcoma of the nerves and ethmoidal cells. *Amer. Medicine*, Nov. 1, 1902.

278. **Krauss, L.,** and **Killian, G.** Killian's radical operation for chronic suppuration of the frontal sinus. (1) Historical development of the method based on a description of cases. (2) Additional cases and conclusions. *Arch. f. Laryngol.*, vol. xiii.

279. **Grois, Ch.** On the radical and rapid cure of chronic frontal sinusitis. *Presse oto-laryngologique Belge*, No. 10, 1902.

280. **Curtis, H. H.** The technique of frontal-sinus operations, with report of three cases treated without nasal drainage. *Laryngoscope*, July, 1902.

281. **Coffin, L. A.** On the diagnosis and treatment of diseases of the frontal sinus. *Laryngoscope*, July, 1902.

282. **Guisez.** The surgical treatment of purulent ethmoiditis. *Ann. des mal. de l'or., du lar.*, etc., 1902, No. 8.

283. **Lindt.** Several cases of maxillary incisions. *Correspondenzbl. f. Schweizer. Aerzte*, 1902, Nos. 13 and 14.

284. **Bourlon.** Suppurating cysts of dental origin. Healing after removal of sequestrum. *Ann. des mal. de l'or., du lar.*, etc., 1902, No. 10.

285. **Solenberger, A. R.** Polypi in the nasal accessory cavities. *Phila. Med. Jour.*, Dec. 20, 1902.

286. **Hoople, H. N.** Pathology of the antrum of Highmore. *Med. News*, Aug. 16, 1902.

287. **Toeplitz, M.** Empyema of the frontal and ethmoidal sinuses, complicated by eye disease. *N. Y. Med. Jour.*, Sept. 6, 1902.

288. **Bryan, J. H.** Chronic empyema of the frontal, ethmoidal, and both sphenoidal sinuses, with extensive necrosis, complicated with adenoma of the posterior ethmoidal and sphenoidal regions. *Amer. Jour. Med. Sciences*, Sept., 1902.

268. The author has had very good success with the use of this needle in twenty cases. After cocainizing the mucous membrane, the needle is inserted under the lower turbinal at about the middle. The wall is perforated while the needle is given an arc-like motion. The bone near the insertion of the turbinal is thinner, consequently perforation is easier at this point. In cases where perforation is not possible on account of thickness of the bone, puncture may be practised from the middle meatus.

SACHER.

269. The ethmoidal cells, particularly the middle and posterior, as well as the sphenoidal sinus, can be easily reached through Highmore's antrum. The inner wall of the antrum contains in its first half-inch the outer boundary of the lachrymal canal; then comes the ostium; the next half-inch is made up of membrane, and finally for three-fourths of an inch it is bony. A curette entered through the ostium, inclined toward the septum, and carried back in this incision would strike first the ethmoidal bulla with the rest of the middle ethmoidal cells, then the posterior cells, and finally the anterior wall of the sphenoid. The paper is well illustrated by a diagram and bone sections. M. TOEPLITZ.

270. In the last four years this author has observed twelve cases of inflammation of the antrum of Highmore following influenza. As a prophylactic, and to cure the coryza, the author recommends insufflation of powder—muriate of cocaine, menthol, āā 0.12; boric acid, antipyrin, āā 0.8. This powder is insufflated in the nose three or four times a day. SACHER.

271. Three different processes are collected under the name of suppuration of the antrum of Highmore: (1) catarrh, (2) hyperplastic processes and new formations, (3) destructive processes. The great majority of the suppurations belong in the first group. As the simple catarrh of the mucous membrane is not a proper indication for radical operation with removal of the diseased parts and the substitution of this tissue by scars, in the majority of cases of empyema of the maxillary antrum the conservative plan of treatment is indicated, viz., irrigation through the alveolus. As our diagnostic means do not always enable us to differentiate simple catarrh from the more severe processes, it is necessary that we should in each case begin with the conservative treatment. The cases then very soon divide into those which after a few days show a quantitative and qualitative favorable change in the secretion, and to those in which no distinct progress is obtained by irrigation. If the irrigations have been practised without success from four to six weeks, recovery by the topical means is not to be expected, and the radical procedure, consisting in the broad opening through the canine fossa, is indicated. In these cases (which do not make up one-third of all of them) the changes in the mucous membrane are not those of ordinary catarrh, but extensive neoplastic and destructive processes. The latter, however, are very rare and are generally due to syphilis, tuberculosis, or traumatism. MÜLLER.

272. In this case the upper half of the left antrum of Highmore was fully developed and extended above the floor of the orbit, presenting a convex surface. The broad opening of this cavity, by the opening of its entire wall, is warmly recommended by the author. He has had very little success with all the other methods. RIMINI.

273. An additional case of simultaneous disease of the antrum of Highmore and acute peritonitis after removal of polypi; angina with high fever set in, followed by peritonitis. At autopsy, streptococci were found in the pus of the antrum as well as in the peritoneum. PIFFL.

274. The patient, a man fifty years of age, whose urine contained 7 % sugar, with suppuration of the antrum of Highmore. During a period free from sugar the cavity was aspirated and irrigated. Recovery. BRÜHL.

275. The method consists of the broad opening of the antrum of Highmore from the canine fossa. The cavity is thoroughly curetted and then the nasal wall in the middle meatus is resected and the mucous membrane in the canine fossa is united by sutures. The author has had good results from this method, and has abandoned the nasal method, which he thinks has to-day been almost given up. He does not favor the making of a counter-opening in the lower meatus, because it is impossible to do so without resecting the lower turbinal. The reviewer does not consider GERBER'S criticisms in either respect as correct, as the pure nasal method in a great many cases is sufficient, even in the chronic cases; and, secondly, the resection of the nasal wall in the lower meatus is not very difficult even if a part of the lower turbinal is resected. NOLTENIUS.

276. Report of a case of cerebro-spinal meningitis and two cases of meningitis. At autopsy, simultaneous suppuration in the antrum of Highmore, and in one case also in the ethmoid and frontal sinuses, was present. There was no change in the bones of the skull.

277. A female, aged thirty-eight, was observed for six years with nasal polypi blocking both nostrils. Each attempt at removal was accompanied by violent hemorrhage. The first recurrence took place after eight months, the second in a few weeks, and the following occurred always after removal with copious bleeding. After four years a solid mass of tissue was seen in the region of the middle turbinate surrounded by a mass of polypi, which, when attacked by cutting, bled alarmingly. Spontaneous epistaxis then began to occur, causing extreme anæmia and weakness. The growth was located within the ethmoidal cells; it increased; the nasal bones separated. Both orbital cavities were encroached upon, the right more than the left; the inner bony wall of the orbit became attenuated, and the growth finally burst through into the right orbital cavity, displacing the eyeball and giving the face a repulsive expression. No operation was permitted; autopsy refused. GIBB advocated the ligation of the external carotid followed by thorough curetting of the mass within the ethmoidal cells. TOEPLITZ.

278. KILLIAN S radical operation for chronic frontal sinusitis attempts a complete evisceration of the diseased frontal sinus: by resecting (1) the anterior wall and then (2) the orbital wall. To prevent disfigurement the orbital margin remains. (3) Finally, the operation seeks to remove any disease in the frontal ethmoid cells after resection of the frontal processes of the superior maxilla. The operation gives a free exposure of the entire frontal sinus, with all its corners and depressions, and, consequently, the best chances for a cure. When properly performed, the trochlea can be preserved in its position, and diplopia does not follow. The cosmetic results are satisfactory in cases which have been well operated upon. The technique of the operation is described with very instructive diagrams. KRAUSS gives the development of the method. Fourteen case histories are described, with remarks, and with especial regard to the mistakes which have been made.

ZARNIKO.

279. GROIS trephines with the electric burr (Doyen) the frontal sinus and removes the entire anterior wall with the bone forceps, and the entire superior wall of the orbit to the internal angle with the gouge. The orbital-periosteum is carefully preserved; the infundibulum is curetted or enlarged with the gouge, and the anterior ethmoidal cells—which are always diseased—are thoroughly treated. The entire wound is cauterized with a 5 % chloride-of-zinc solution. A broad drainage tube is passed through the infundibulum into the nose. Suture and packing. Recovery after five or six days by agglutination of the soft parts to the posterior wall of the front sinus. BRANDT.

280. CURTIS modifies the regular open operation by draining from the upper instead of the most dependent part of wound, and he puts two or three stitches in each end of wound, leaving an opening about one inch long in order to gain access to fronto-nasal duct and be able to pack and examine all portions of the sinus. He keeps the fronto-nasal duct well packed and also keeps the flaps well elevated with iodoform wool, and as the sinus granulates he takes more stitches, closing wound down to a quarter of an inch which he keeps open for final packings.

HURD.

281. The author advocates exploratory incision by an osteoplastic flap on all doubtful cases. The exploratory opening should be as low as possible on the anterior wall and just over the inner canthus of eye. When the sinus is found diseased he

prefers the open to the closed method and says no more work should be done between sinus and nasal cavity than necessary. He uses a trephine, by means of which any part of a circle can be cut. HURD.

282. After an extensive description of the topography of the ethmoid cells to the neighboring cavities, the treatment of the isolated disease of the ethmoid cells is discussed, the method from the orbit and from the nose is compared, then the treatment of associated empyema of the frontal sinus and maxillary antrum, and finally, the Bardenheuer decortication, as modified by Goris. Seven case histories are reported. ZIMMERMANN.

283. Five cases of maxillary cysts which have been operated upon are described, which appeared under the picture of fetid nasal suppurations from carious roots of teeth. The differential diagnosis between cysts and empyema of the antrum is furnished principally by the distension of the bone in the antrum, tooth roots, and by the chronic fistulæ in the canine fossa. The antrum appears to be normal after exploratory puncture.

It is also important to remember that fluid injected into the cysts, unless they should communicate with the antrum, does not escape from the middle meatus. In doubtful cases, microscopic examination of the contents of the cavities and the lining membrane may be made. The radical treatment consists, in all cases where suppuration of the membrane and formation of granulations have existed for some time, in removing the entire anterior wall of the cyst and curetting the inflamed tissue. A surface free from epithelium must be left, which communicates with the mouth or the nose. RAU.

284. There was a distension of the anterior wall of the superior maxillary as large as a nut; a fistula behind the second molar tooth entered into this cavity and fetid pus was discharged. No communication with the nose. The second molar tooth was extracted, and a few days later a rather large sequestrum was cast off. Recovery with a certain amount of thickening.

ZIMMERMANN.

285. Recurrence of nasal polypi is chiefly due to caries of the bone; however, not all nasal polypi originate on or in bone. They may originate in the mucous membrane alone, or in the lower layer of the periosteum, or in the lining membrane of the cavities. M. TOEPLITZ.

286. The air cavities of the face resemble a set of flasks with

one narrow mouth over which the wind plays. The principle in physics suggesting this arrangement is represented by the Sprengle air-pump, which frees the flask from air by pouring mercury down a capillary funnel tube laterally connected in the flask; the moisture is thereby abstracted from the cavities. The existence of empyema destroys this function. The feeling of fulness in coryza, influenza, sinusitis is due to a water-logged condition of the air cavities. Empyema of the antrum of Highmore gives no certain symptoms of its existence, unless a disturbance of the economy of the nervous system leads to its recognition; examples are cited. The poverty of the blood-supply to the thin lining explains the paucity of granulations; still, three cases of severe hemorrhage have occurred, one, of HOOPLE'S own observation, being extensively quoted. Other features of the pathology, as bacteriology, polypi, hypertrophy, hydrops, malignancy, etiology, traumatism, latency, etc. are mostly proven by references. M. TOEPLITZ.

287. A man, æt. forty-eight, suffered from a chronic hypertrophic nasal catarrh, which was aggravated by deviation of the septum to the right and superiorly above, and which, together with the hypertrophy of the middle turbinal led to closure of the mouth of the frontal sinus in the infundibulum. After the ethmoidal and frontal sinuses were infected by influenza, it took four years until the final exacerbation brought the condition to a final issue. Excruciating headaches over the right forehead, a hidden odor in the head, purulent discharge along the outer wall of the right nostril, a doughy swelling in the inner angle of the right eye, and sensitiveness on pressure upon the floor of the sinus established the diagnosis of empyema of the frontal sinus. After removal of the right middle turbinal and curetting of the sinus through the nose, two red streaks, each running from the inner angle of the right eye over half of the upper and lower lid, appeared two hours later. On the following day, considerable swelling of both lids, chemosis of the conjunctivæ with mucous discharge and closure of the eye were manifest. Slight exophthalmus and restriction of the movements of the globe rendered the diagnosis of an orbital phlegmon probable. Through an opening from without, much pus, polypi, and carious bone were removed, but there was not any pus behind the globe. Five days later an abscess of the lower lid opened spontaneously, and the patient made, from now on, an uninterrupted recovery. M. TOEPLITZ.

288. A woman, aged forty-eight years, complained, in January,

1899, of excruciating headaches over the left side of the head, which began eight years before during convalescence from pneumonia, and she had ever since had dropping of mucus into the nasal space, which increased during the last two years and recently became fetid, producing nausea. The headaches intensified when the discharges diminished. Pain upon pressure was felt over the supraorbital ridge and under it near the inner angle. Thick yellow secretion was observed in the postnasal space over the posterior extremity of the left turbinal. The probe revealed extensive caries of the anterior ethmoid region. The anterior ethmoid cells were frequently curetted. After four and one-half months, through an outer operation all diseased bone as far it could be felt was removed. After four weeks, an abscess of the upper lid was evacuated, leaving a fistula below the ridge and an opening above it, which necessitated in January, 1900, another extensive exposure of the frontal and ethmoid sinuses, and a penetration of an over-extended ethmoid cell five weeks later. The headaches returned in May, increased, and pain arose in the left eye. A swelling along the internal portion of the floor of the orbit, extending upward to the inner angle and backward, was penetrated about the region of the os planum, and pus and soft tissue were removed. The frontal sinus was now found to be firmly filled out. The eye symptoms ceased. There still came muco-purulent secretion from the middle ethmoid region. In September there was pain in the occipital region and the vertex, swelling over the left eye near the inner angle, and a small sinus leading into ethmoid, which was curetted. October 5, 1900: A large bony growth, triangular, with base attached to the middle meatus, extending across the vestibule of the nose, behind which, when removed, a firm growth, grayish in color, was discovered springing from the ethmoid bone between the middle and superior turbinals and in the region of the posterior ethmoidal cells; it was quite firm, not readily bleeding, blocked the upper portion of the nose, and pressed firmly against the posterior portion of the vomer, destroying part of the septum and causing necrosis of the bone. After partial removal it was found to extend backward and to be attached to the anterior wall of the left sphenoidal sinus. The sphenoid cavity was opened by a double-edged knife, and much pus was removed from the cavity, affording the greatest relief. The whole sphenoid bone, its septum, and roof were extensively necrotic. The tumor had to be repeatedly removed. The pus

contained predominantly the staphylococcus. The growth was an adenoma, possibly a malignant one. May 5, 1902 : The entire growth has been successfully removed and after an interval of one year there was no evidence of return. The suppuration in the sphenoid ceased ; there remained only one small cell in the posterior ethmoidal region where pus is formed. The general condition is very much improved. M. TOEPLITZ.

d.—TUMORS OF THE NOSE.

289. **Citelli** and **Calamida.** On epithelioma of the nasal mucous membrane. *Arch. f. Laryngol.*, vol. xiii.

290. **Comisso, E.** On osteoplastic carcinoma. *Wiener klin. Wochenschr.*, 1902, No. 50.

291. **Allen, Seabury W.** A probable myxo-fibroma of the nose. *Boston Med. and Surg. Jour.*, Nov., 1902.

292. **Mayer, Emil.** Adenoma of the nose with incipient sarcomatous metamorphosis. *American Medicine*, Aug. 2, 1902.

293. **Powell, F.** Specimen of fibroma removed from the left maxillary antrum of a male aged eighteen years. *Laryngol. Society of London*, April 11, 1902.

289. After a short description of a carcinoma of the nasal cavities, the case-histories and microscopic examinations of eight cases which were observed in Gradenigo's clinic are given. They were papillo-adenomata with beginning carcinomatous, five papillary varieties, of which the first scarcely showed any transition of carcinoma; this transition in the second and third was complete; in the fourth and fifth, the landmarks of a primary papilloma were still present, although the tumor was to be classed as a carcinoma. The carcinoma consists of squamous epithelium with partial keratosis. The first two tumors evidently originated in the nasal mucosa ; the others, from the superficial epithelium.

ZARNIKO.

290. This was a cylinder-cell carcinoma of the nasal accessory cavities, which had invaded the large part of the base of the skull with the formation of very large bony tumors. The patient had suffered for two years from papilloma of the left nasal cavity, which had been repeatedly curetted. Then a small, hard nipple appeared on the left side of the nose below the inner angle of the eye. The histological diagnosis of osteo-blastomatosis adenoma was made. WANNER.

291. Five photographs show the man, æt. thirty-four, four feet high, who had noticed twenty-two years ago a slight protrusion of

the left lower eyelid, and some months later a soft, friable, easily bleeding tumor at the left nostril, slowly progressing since that time and lately emerging from the mouth, breaking through the hard palate and separating the upper teeth. The centre of the mass has sloughed away, leaving a cavity of the size of a fist. The left eye has lost its sight, but not its sensitiveness; neither eye can be completely closed owing to ectropium. No operation could be performed on account of the difficulty of etherizing and the danger of a fatal hemorrhage. No microscopical examination was made. Seven X-ray exposures seem to have diminished the odor, discharge, and the size of the mass. M. TOEPLITZ.

292. A man, sixty-eight years old, was kicked over twenty years ago by a horse, whereby his nose was depressed over the bone and the cavity obstructed. For six years numerous polypi have been snared off. During the past year the character of the growth changed. A large tumor presented on the left side; it was soft, bled easily, extended into the posterior nares, and depressed the hard palate. After preliminary tracheotomy the immense growth was evulsed from without. It had originated from the left turbinated bone. There was an entire absence of the vomer, nasal bones on the left, and most of the superior maxilla that formed the hard palate; the septal cartilage was intact. Microscopically it proved to be a papillo-adenoma with a remote possibility of sarcomatous complications; clinically there was an incipient sarcomatous metamorphosis. M. TOEPLITZ.

293. The mass projected into the postnasal space, having an attachment to the under surface of the floor of the orbit. The fibroma was the size of a small kidney. How was it removed?

ARTHUR CHEATLE.

e.—OTHER DISEASES OF THE NOSE.

294. **Bruck, F.** On the treatment of transition erythema of the nose. *Allgem. med. Centr. Zeitung*, 1902, No. 53.

295. **Grünwald, L.** On the present position of the ozæna question. *Arch. f. Laryngol.*, vol. xiii.

296. **Grosskopff, W.** Ozæna. *Haug's Klin. Vortr.*, vol. v.

297. **Rode, F.** On a number of cases of traumatic abscess of the nasal septum. *Wiener klin. Wochenschr.*, 1902, No. 41.

298. **Bamberger, J.** Perforations in the septum in workers in chromic acid. *Münchener. med. Wochenschr.*, 1902, No. 51.

299. **Hellat, P.** The treatment of malignant syphilis of the upper respiratory passages. *Mittheilung in der St. Petersburger syphilidologischen Gesellschaft.*

300. **Wolff, L.** On congenital bony occlusion of the choanæ. *Arch. f. Laryngol.*, vol. xiii.

301. **Myles, R. C.** Traumatic abscess and necrosis of the nasal triangular cartilage. *N. Y. Med. Journ.*, Aug. 9, 1902.

302. **Cheatle, Arthur.** Case of congenital absence of the front of the nose, with occlusion of the anterior nares. *Laryngological Society of London*, April 11, 1902.

303. **Bishop, L. S.** Rhinolitis. *The Laryngoscope*, Jan., 1902.

304. **Richardson, C. W.** Perforation of the septum narium, from a study of twenty-five cases, with regard to etiology and pathologic significance. *Annals of Otology*, Feb., 1902.

305. **Hope, G. B.** Hay-fever and its radical treatment. *The Laryngoscope*, Aug., 1902.

306. **Toeplitz, M.** Nasal disturbances in typhoid fever, and their sequelæ. *Medical Record*, Sept. 20, 1902.

294. Gauze compresses soaked in benzine are placed upon the reddened areas of the skin. The redness and the gloss of the skin disappear, owing to the rapid evaporation of the benzine.

ZIMMERMANN.

295. The following conclusions are given: A number of focal suppurations (accessory sinuses, nasal meatus, and adenoid tissue in the epi- and meso-pharynx) running across under the clinical picture of putrid crusts in broad noses. The secretion is at first always fluid, usually without odor, occasionally in a fresh condition, fetid dryness following mechanical influences, of which one of the most important is the adhesiveness on account of the infection with the bacillus mucosa Abel. Other influences are furnished by the unusual breadth of the nose. Atrophy only primarily results from the pressure and the infectious influence of the enormous quantity of crusts. The odor depends upon the saprophytic destruction of the masses of secretion which are retained in a half moist condition on account of their unusual adhesiveness. Whether the more serous constituent of the secretion favors adhesion and decomposition or not, cannot be determined. It is quite certain that general bodily weakness depending upon hereditary basis, and especially upon tuberculosis, favors the primary focal suppurations, as well as the secondary infectious processes, while the disease may lead to a general cachexia.

ZARNIKO.

296. The author has endeavored, after consulting the literature, to give a complete picture of the present knowledge of ozæna. Over three hundred and fifty articles were carefully gone over and the therapeutic recommendations are all carefully stated.

ZIMMERMANN.

297. After a review of the literature of septal abscesses, the author discusses the etiology. Traumatism of a mild degree is sufficient to produce this abscess, and in fact any blow which acts upon the fixed part of any cartilaginous septum. A deviation of the cartilage takes place with the formation of a hematoma, the elevation of the muscular perichondrium lining, and the secondary abscess is formed.

Five case-histories of Chiari's clinic are added. Nasal occlusion set in between the third and seventh day. The tumor was situated usually in the lower and anterior part of the septum. In only one case was the tumor situated at the tubercular septum. In all cases a perforation of the cartilage was present, varying in size between the thickness of the probe and that of a lead-pencil. In no case did a perforation of the septum persist. The defect was always covered by mucous membrane. WANNER.

298. The perforation always occurs at the same place in the septum, because the inspiratory current and with it the chromium dust always acts upon this site. This same explanation has already been given by Poincare. SCHEIBE.

299. HELLAT found that the nose, the naso-pharynx, pharynx, and the larynx were equally attacked by tertiary syphilis. In one case, the tissue of all these organs was covered with small, round, deep ulcers. Treatment with mercury, iodides, and baths was without effect. Improvement and occasional cicatrization were obtained by extensive curettage. SACHER.

300. One-sided bony occlusion; on the other side, indication of a diaphragm. The author agrees with Siebenmann's theory that the height of the palate is a function of leptoprosopia.

ZARNIKO.

301. MYLES has seen three cases of traumatic abscess and necrosis of the nasal triangular cartilage caused by sawing off part of the septum by himself. After a few days the cartilage became necrotic, turned white, and gradually softened; fragments came away with the curette. The cavities were packed and filled up without occurrence of perforations or deformity. In other four cases of suppurative perichondritis of the septum caused by blows on the nose, the same treatment was used with the same success. These cases should be separated from all the other forms of perichondritis in which the process does not extend to the anterior-upper border of the triangular cartilage.

M. TOEPLITZ.

302. The infant was six weeks old. It was the mother's first child, and was born at full time. There was no history of syphilis. The nasal bones were present, but the framework in front of them was absent. The palate was normal, and no other deformities were present. ARTHUR CHEATLE.

303. BISHOP removed a rhinolith, weighing 71 grains, from the right nasal fossa of a woman, fifty-nine years old, with the forceps, after it had been crushed into twenty-three fragments.
M. TOEPLITZ.

304. RICHARDSON divides perforations of the septum from a pathologic and etiologic point of view into those arising from organic diseases, such as trauma, syphilis, lupus, tuberculosis, etc., and those without a definite pathology and etiology, the so-called idiopathic perforating ulcer of the septum. An analysis of 25 cases shows 8 due to syphilis, 11 to tuberculosis; of the remaining 6, 2 were due to atrophic rhinitis, 2 to typhoid fever, and 2 presented negative etiological evidence. The preponderance of tuberculosis in these cases is a mere coincidence, and the perforation is caused by impaired nutrition in the mucous membrane.
M. TOEPLITZ.

305. HOPE rejects the pollen theory and refers the nervous element in the production of hay-fever to the turbinated bodies, which are normally sensitive to vasomotor excitement. While the inferior turbinated has received the major share in the past as offending body, to the middle turbinated, constituting a part of the ethmoid and standing in immediate relation to the floor of the brain, a wide range of symptoms of hay-fever are easily attributed. Within Hope's experience, there is no exception where the presence of hay-fever has not been associated with hypertrophy of the middle turbinated, and the removal of which has seemed to demonstrate clinically a most decided arrest in the chain of vasomotor excitement. M. TOEPLITZ.

306. The nasal disturbances in typhoid fever consist in dryness of the mucous membranes, abrasion of epithelium, erosion, particularly at the anterior portion of the septum, with occasional, frequently intense, and dangerous bleedings. The erosion develops at times into an ulceration and leads finally also to perforation of the septum. On the other hand, it leads to adhesions with the opposite surface of the lower turbinated body, of which two cases are fully given. The nasal accessory cavities are also affected in typhoid fever, as mostly proven by autopsies.
M. TOEPLITZ.

NASO-PHARYNX.

307. **Bjorn, Floridus.** On the importance of hyperplastic and tubercular processes in the pharyngeal tonsil. *Hygeia*, No. 3, p. 269; No. 4, p. 389; No. 5, p. 593, 1902.

308. **Goerke, M.** Cystic formations in the hyperplastic pharyngeal tonsil. *Arch. f. Laryngol.*, vol. xiii.

309. **Fein, W.** The operation for adenoid vegetations in the naso-pharynx. *Arch. f. Laryngol.*, vol. xiii.

310. **Beckmann.** Acute inflammation of the pharyngeal tonsil. *Berl. klin. Wochenschr.*, 1902, No. 50.

311. **Chauveau.** Contribution to the history of nasal pharyngeal polypi up to Levret. *Archives internat. de laryngol., d'otologie et de rhinologie*, Sept.–Oct., 1902.

312. **Kafemann.** A foreign body in the naso-pharynx. *Arch. Laryngol.*, vol. xiii.

313. **Glas, E.** On the pathology of naso-pharyngeal tumors. *Wiener med. Wochenschrift*, 1902, Nos. 46 and 47.

314. **Mackuen, G. Hudson.** A naso-pharyngeal tumor. *Amer. Medicine*, Nov. 22, 1902.

307. The author has examined 905 school-children between the ages of seven and eight years. Digital exploration was practised in 510; in the other cases there were no symptoms pointing to a pharyngeal hypertrophy. In 170 the pharyngeal tonsil was unusually hyperplastic; in 170 it was less pronounced, though distinctly hyperplastic. In other words, 37 % of the children suffered from adenoids. The hearing was reduced in the first group of children 67 %, in the second group 66 %, and in those in which no distinct hyperplasia was present, 31 %. It is remarkable that cerumen exists more frequently in children with pharyngeal hypertrophy than in those where this is absent. In children with signs of an old or still existing otitis, pharyngeal hypertrophy was present in 55 %. He is inclined to remove the pharyngeal tonsil during the course of otitis. He has never seen unpleasant results from this practice—in fact, a rapid improvement. In one case of a child suffering from acute otitis and mild mastoiditis, the mastoiditis disappeared after the removal of the pharyngeal tonsil. In all cases of chronic and relapsing otitis, the pharyngeal tonsil should be removed, unless the condition of the patient contra-indicates a bloody operation. In all cases where mastoid operation had to be undertaken, pharyngeal hypertrophy was found present, and usually to a marked degree. The various symptoms in other organs, produced by pharyngeal

hypertrophy, are then discussed and the clinical picture of scrofulosis is dilated upon. In 829 cases of lymphoma of the neck, the pharyngeal tonsil was enlarged in 48 % of the cases. The author is inclined to regard the scrofulous glands of the neck to be secondary, infection originating in the pharyngeal tonsil. It frequently occurs that after removal the glands in the neck disappear.

The tuberculous processes in the pharyngeal tonsil appear in three varieties: the unusual tuberculomata, the relatively frequent tuberculous ulcerations, and the infiltrating, latent tubercular processes. The last are usually secondary, though they may be primary, and may serve to develop the tuberculosis in other organs, especially under the picture of tubercular lymphoma of the neck, which frequently disappear after removal of the pharyngeal tonsil. Its removal is therefore always indicated.

MÖLLER.

308. The author's conclusions of these very careful investigations, carried on in Brieger's Institute, are summed up as follows: (1) The formation of cysts in the hypertrophied pharyngeal tonsil is a frequent condition. (2) They are more frequent in adults than in children. (3) The anatomical formation of the cysts and the constituents of their contents vary according to their origin and position. (4) The cysts usually originate by retention of the glandular secretion, although other processes have a discharge of lymph in the glandular ducts, and especially hypertrophies and developmental processes in the wall of the lymph spaces. (5) These processes are usually inflammatory in nature. ZARNIKO.

309. According to the author, the chief disadvantage of the curettes now in use is, that the lower teeth prevent the passage of the curette high enough on the pharyngeal vault. He has therefore had to construct an instrument with a bayonet-shaped blade and a lateral deviation, so that the obstruction of the lower teeth is not encountered, and the hand and arm of the operator have a natural position. ZARNIKO.

310. BECKMANN regards acute pharyngeal tonsillitis as the most important and most frequent disease in the upper air-passages. It forms, therefore, the most frequent cause of all the other diseases of the upper air-passages: thus, acute infectious purulent coryza, empyema of the accessory sinuses, acute and chronic middle-ear cases, lacuna, angina, and the so-called chronic

catarrh of the upper air-passages. The pharyngeal tonsil is, moreover, the site of infection for acute articular rheumatism, endocarditis, chorea, influenza, scarlet fever, and in many cases for pleurisy, pneumonia, nephritis, osteomyelitis, meningitis, retro-pharyngeal abscesses. A suppurating pharyngeal tonsil is of considerable etiological importance for the symptom-complex of scrofulosis and for the tubercular apical catarrh.

This useful picture of the diseases of the upper respiratory passages and of the middle ear as coming from diseases of the pharyngeal tonsil, leads to a simple form of treatment on firm indications. This consists, in general, upon the use of cutting instruments and dispensing with the brush, the cautery, the syringe, and the rubber bag. MÜLLER.

311. This is a short, historical study which is probably a supplement to the author's well-known work, or book, on the history of the anatomy, physiology, and pathology of the pharynx. RAU.

312. A child twelve years of age suffered from a very unpleasant odor from the nose since her third year. Rhinoscopically nothing more abnormal is found than the enlargement of the pharyngeal tonsil. On removing the pharyngeal tonsil, a shoe button surrounded with putrid mucus was discovered. The fetor then disappeared. ZARNIKO.

313. A very large nasal pharyngeal tumor consisting of two sharply defined parts, the lower larger and very firm, the upper small, soft, connects with a pedicle. Both parts are separated by a ring, which in its horizontal position corresponds to the lower choanal margin, containing a bony, hard cord. Histologically, the tumor presented the typical picture of the naso-pharyngeal fibroma. The cord, after decalcification, was composed of typical bone structure showing the picture of osteoid connective tissue. Three months later, a fibroid tumor was removed which also contained osseous trabecules. The author is inclined to regard these as symptoms of senile involution. WANNER.

314. MACKUEN reports a case of naso-pharyngeal tumor in a student of pharmacy, with occlusion of the left nostril, deviation of the septum to the right, adhesion between the septum and the right middle turbinal, and partial occlusion of the right nostril. A portion of the tumor, removed under anæsthesia, revealed a granulomatous and inflammatory character without malignancy. After operation a sensation of fulness in the orbital and frontal

regions supervened. During the year infiltration of the tissues of the face on the left side appeared. M. TOEPLITZ.

SOFT PALATE AND PHARYNX.

315. **Hubbard, Thomas.** Scarlatinous perforations of the pillars of the fauces. *The Laryngoscope*, Oct., 1902.

316. **Broeckaert, J.** New contributions to the study of acquired and congenital perforations of the palatal vault. *La presse oto-laryngologique Belge*, 1902, No. 9.

317. **Macaud.** A case of paralysis of the soft palate. *Ann. des mal. de l'or., du lar.*, etc., 1902, No. 10.

318. **Voisin.** Partial paralysis of the soft palate, of traumatic origin. *Ann. des mal. de l'or., du lar.*, etc., 1902, No. 8.

319. **Ritter, S.** A contribution to the pathological anatomy of the faucial tonsils. *Arch. f. Laryng.*, vol. xiii.

320. **Poliewktow, A.** On the treatment of scarlatinous angina with injections of carbolic acid. *Medicinskoje Obosvenje*, 1902, No. 10.

321. **Richardson, C. W.** Keratosis of the pharynx. *Am. Jour. Med. Science*, Oct., 1902.

322. **Galler, P.** Pharyngeal ulcers due to malaria. *Russkÿ Wratsch*, 1902, No. 41.

323. **Tschlenow, M.** On lichen planus of the mucous membrane. *Medicinskoje Obosvenje*, 1902, No. 15.

324. **Hanssel, F.** Congenital pharyngeal polyp. *Wiener klin. Wochenschr.*, 1902, No. 50.

325. **Zwillinger, H.** A clinical and histological study of the diagnosis of certain forms of epipharyngeal sarcomas. *Wiener med. Wochenschr.*, 1902, Nos. 42, 43.

326. **Winslow, R.** Accessory thyroid tumor of the base of the tongue. *Amer. Medicine*, Dec. 12, 1902.

327. **Ferran** and **Rosenthal.** Contributions to the study of hypertrophy of the lingual tonsil. *Lyon médical*, 1902, No. 34.

328. **McCaw, J. F.** Primary epithelioma of the uvula and soft palate, and treatment with Roentgen rays. *N. Y. Med. Jour.*, Aug. 9, 1902.

329. **Shurly, E. L.** Tumor of the pharynx; an accessory thyroid gland. Removal followed by myxœdema. *Phila. Med. Jour.*, Sept., 1902.

330. **Seligmann, C. G.** Endotheliomata of the soft palate. *Brit. Med. Jour.*, May 3, 1902.

331. **Root, Arthur G.** A case of sarcoma of the tonsil. *N. Y. Med. Jour.*, April 12, 1902.

332. **Thorne, J. M.** Notching the soft palate for cure of postnasal obstruction in adults. *Brit. Med. Jour.*, April 19, 1902.

315. In cases of scarlatinous, streptococcal angina with deep-seated peritonsillar abscess, perforation of the faucial pillars occurs, which may become permanent, leaving a blind pouch. These lesions, formerly considered as of congenital origin, are,

according to HUBBARD, the result of an abscess or necrosis, unless positively disproven. The importance of scar tissue is overestimated. Two cases, observed in children of four and two years of age respectively, are cited in full. The scarlatinous ulceration is usually bilateral. M. TOEPLITZ.

316. A young lady presented an oval perforation in the left anterior pillar of the soft palate, the result of a severe attack of scarlet fever with necrosing angina in her seventh year. Congenital defects occurring in the soft palate are, according to the author, an aplasia. BRANDT.

317. It is not quite certain whether this case is one of genuine paralysis after an attack of diphtheria six weeks preceding, or the mechanical immobilization by an inflamed and enlarged pharyngeal tonsil. The latter opinion seemed to be the correct one, as the soft palate returned to its normal condition after the removal of the pharyngeal tonsil. ZIMMERMANN.

318. In this patient a typical paralysis of the soft palate had existed for a month after an onset with pain in the neck and chills. The author is inclined to regard this not as the result of diphtheritic infection, but thinks the paralysis is due to the resection of the lingual branch of the facial during the incision practised by the physician. ZIMMERMANN.

319. Two photographic illustrations of faucial tonsils in which retention cysts (abscesses) are visible. ZARNIKO.

320. (1) Injections with carbolic acid should be undertaken as soon as the character of the infection is diagnosticated; in other words, usually on the second day of the disease. (2) In the moderate cases, the injections should be repeated every day for four or five days until the temperature drops. (3) In severe cases of scarlatinous diphtheria and swelling of the lymph glands, the injections should be practised for seven or eight days,—fourteen to sixteen injections,—during which time the urine should be carefully examined. (4) The dose for small children is 0.015 pure carbolic acid up to 0.03 per day; grown children (six to eight years) twice as much. SACHER.

321. The histological changes in the epithelial structures prove a keratosis of the faucial and pharyngeal mucous membrane in the condition commonly known as pharyngomycosis. The changes begin in the subepithelial structures, and are identical in the naso-pharynx, pharynx, or fauces. Leptothrix is not a

constant factor, most frequently found on tufts in the fauces, more rarely in the pharynx, never in the naso-pharynx. It is an accidental deposit and has no causative relation to structural changes. There is a condition in the pharynx, occurring in the very young and the aged,—a true mycosis; true keratosis occurs in middle life. M. TOEPLITZ.

322. A patient, forty-five years of age, suffered since 1898 with malaria. In May, 1901, five small erosions were noticed on the posterior and lateral pharyngeal wall, which greatly enlarged and formed an ulcer *3cm* by 1½*cm*. The ulcer was quite deep; the margins were thickened; it was partly situated in the posterior and partly in the right lateral wall of the pharynx. The disturbance in swallowing was so great that even fluid could not be taken without great discomfort; there was marked anæmia; there were no signs of syphilis or tuberculosis; specific and local treatment was resorted to. Microscopic examination did not disclose any signs of cancer. Quinine and arsenic were given internally. Quinine subcutaneously by enemas and stomach-tube saved the patient's life. The ulcer healed in a short time.

SACHER.

323. Lichen planus occurs most frequently in the buccal mucous membrane. It usually begins just as the disease of the external skin, though sometimes precedes the latter and may be isolated. It usually develops after the appearance of a disease of the skin. The clinical picture is so characteristic, that its diagnosis does not present difficulty. The pathological anatomy of the disease has not been determined; its etiology and pathogeny are not clear. Prognosis in general is favorable. Its treatment consists in the proper and energetic use of arsenic.

SACHER.

324. On examining the pharynx on the left side, a tumor as large as the small finger was noticed. In addition to that, the left posterior palatal arch was missing. The tumor is shiny and of deep red color; at one point, bluish red; it is hard to the touch. The attachment is lateral, directly underneath the orifice of the Eustachian tube. Histologically, the typical structure of a dermoid tumor was shown. WANNER.

325. In order to clarify the difficulties connected with the differential diagnosis between certain forms of sarcoma of the epipharynx and preceding hyperplastic pharyngeal tonsils, the author has collected a number of cases out of the literature with the

histological picture of adenoid vegetation developed into lympho-sarcomas, and cites a case which originally presented an enormous hyperplasia of the lymph tissue of the naso-pharynx and rapidly recurred after removal. Death followed after a number of months.

Even histological examination of the tumor masses may be uncertain, unless it is possible to remove a part of the tissue from the limiting area.

Important from a differential diagnostic standpoint, the malignant tumors are characterized by a rapidity of growth, restriction of growth to one-half the naso-pharynx, development of the hard glandular swelling, tendency to hemorrhage, suppuration of the soft palate from the posterior pharyngeal wall, the hanging down of the tumor on one side, and especially the spontaneous breaking off of certain fragments. WANNER.

326. A girl, aged seventeen, had a growth in front of the epiglottis, which made the voice muffled and produced difficulty in swallowing. It was about half the size of a hen's egg and was enucleated from without through an incision made in the median line from the chin.

327. A short, explicit article on the etiology, symptoms, diagnosis, and treatment of hypertrophy of the lingual tonsil. The most important symptoms are the sensations of a foreign body, the tendency to swallow and clear the throat, dry attacks of coughing similar to hysterics, occasionally pain localized in the region of the lingual bone. If the symptoms are pronounced, radical treatment is indicated. The destruction of the tonsil with the galvano-cautery in a number of sittings at weekly intervals is recommended. RAU.

328. A woman, aged thirty-seven, had three small ulcers on the soft palate, which, after 6½ months, enlarged and filled the throat with a hard mass involving the uvula, velum palati, each posterior faucial pillar, the right lateral and a portion of the posterior wall of the pharynx on the right side; it had an irregular, nodulated outline and an ulcerated and necrotic surface, and proved microscopically to be an epithelioma. The growth was removed as freely as possible with curette and electro-cautery knife. After two weeks the wound, when beginning to cicatrize, was subjected to the application of the Roentgen rays, protecting the mouth, tongue, lower part of face and neck by sheets of block tin, and the upper part of the face by heavy tinfoil. The

exposures were made three times a week for seven weeks, when only one small area as large as a split pea remained unhealed. After an interruption of this treatment for three weeks, marked increase in the area of ulceration and infiltration of the velum and right lateral and posterior pharyngeal walls took place, which necessitated another removal of the growth with curette and cautery. Microscopically there was now found, in addition, a very rapid colloid degeneration of the epithelial cells replacing the protoplasma.

M. TOEPLITZ.

329. In a girl, æt. sixteen, the laryngoscope revealed a dark-red, globular, smooth, broadly pedunculated tumor, about the size of a small hen's egg, attached well down at the very base of the tongue, a little to the right of the median line, and in juxtaposition to the epiglottis, but not infringing much upon it. It was diagnosed as adenoma, owing to the history of progressive increase of subjective symptoms, such as a desire to swallow, difficulty of deglutition, extra secretion of mucus, and frequent expectoration, with apparently good general condition. The removal of the growth with the snare was followed by considerable bleeding, and marked signs of myxœdema developed later, which were eliminated by thyroid extract. A full survey of the literature on the subject is given.

M. TOEPLITZ.

330. SELIGMANN, at a meeting of the Pathological Society of London, held on April 29, 1902, drew attention to two tumors of the soft palate, which he regarded as endotheliomata. They occurred in patients, aged fifty-six and forty-three years respectively. In neither of them were there any enlarged glands or other signs of metastasis. ARTHUR CHEATLE.

331. ROOT'S patient, a man, aged twenty-three, began his illness with an ordinary cold and a persistent cough, painful deglutition, swelling of the left tonsil, with abscess formation and hemorrhage from it. The swelling pressed the anterior pillar forward and upward, extending downward below. The margin of the epiglottis was hard, of irregular surface, injected without ulceration, with large firmly attached base and of boggy consistence. The left cervical glands were involved. It was operated from without with ligation of the common carotid twice within six days. Relapse took place after five months, and death three weeks later. The tumor was a short spindle-celled sarcoma.

M. TOEPLITZ.

332. Under an anæsthetic the margin of the soft palate is seized, midway between the anterior pillar and the uvula, with vulsellum forceps; a cut on each side, meeting above, is then made with scissors for half an inch, and the piece removed. THORNE has done this in two instances with beneficial results.

ARTHUR CHEATLE.

BOOK NOTICES.

VII.—**Patologia e terapia del orecchio e delle prime vie aeree (otologia, rinologia, laringologia).** By GIUSEPPE GRADENIGO, Professor, University of Turin. Turin: S. Lattes & Co., 1903.

This volume, of 968 octavo pages, just published, comprises the lectures of the distinguished author, collected and edited by his assistant, Dr. E. S. CASSANELLO, specialist for ear, nose, and throat diseases in Montevideo. The special literature is followed up to the beginning of the year 1903. The reader may easily keep acquainted with the subsequent literature, from the two general reviews published in German: (1) *Internationales Centralblatt für Laryngologie*, by SEMON, of London—August Hirschwald, Berlin, publisher; and (2) *Internat. Centralblatt für Ohrenheilkunde*, by BRIEGER and GRADENIGO—A. Barth, Leipzig, publisher.

GENERAL PART, PP. 1–228.

The *first lecture* demonstrates that the ear, nose, and throat form anatomically, functionally, and technically a kindred field of work. The *second* describes in a very instructive manner the functions of the upper air-passages in regard to their pathology, as organs of defence, and of adaptation of their air-current to respiration, and sensory actions — taste, smell, and hearing, — by means of warming, moistening, and sterilizing the tissues. This chapter is illustrated by several very good text-figures, by W. CALAMIDA, MORITZ SCHMIDT, and WALDEYER, whose annulus lymphaticus is presented, slightly schematic. The *third* and *fourth* lectures are devoted to the etiology and symptomatology of the diseases of the upper air-passages. The *fifth* describes the normal condition of the parts, with many good engravings; the

sixth, the instruments and methods of the objective examination. Lectures VII. and VIII.: functional examination of the nose (Zwaardemaker's olfactometer), etc., the pharynx and the larynx (technique of the examination of taste). The examination of hearing is presented with great detail. Lecture IX.: medical treatment; syringing nose and ear. General and local medical treatment. Lecture X.: the bloody operations on nose, pharynx, and larynx. Abuse of endonasal surgery; danger of infection. Lecture XI.: bloody operations on the ear. Lecture XII.: application of electricity for diagnostic and therapeutic purposes. A very detailed exposition of this interesting subject.

SPECIAL PART.

In Lecture XIII. the acute inflammation of the nose, pharynx, and larynx is described, side by side, pointing out their general characters and their differences. Lecture XIV.: acute otitis m. pur. Lecture XV.: the simple chronic catarrhal affections of the upper air-passages. Different clinical types. Hypertrophied tonsils and their removal (Fahnstock, 1833, Mackenzie, Ruaut; knife or scissors when tonsil is drawn with forceps in front of their niche between the arches of the palate; hemorrhage, especially in grown people, best avoided by removing tonsils in fragments). Lecture XVI.: ozæna. Lecture XVII.: hypertrophy of the *pharyngeal* tonsil. "In the majority of cases, digital palpation will, with saving time, let you recognize the presence of the hypertrophy." "The third [!] finger of the right hand is introduced under well-known precautions, and the naso-pharyngeal cavity is explored with great practical advantage; not only the existence of the hypertrophy is recognized, but also its degree and consistence." Lecture XVIII.: otit. med. sicca, affections of the tube. Lecture XIX.: Ot. m. p. c. Good description of ossiculectomy. Lecture XX.: the mastoid and intracranial complications of otitides. The author says to his audience, he has to be very brief in this most important subject of his lectures; he will have to limit himself to give them a general idea of these frequent and most dreaded complications, so that they would be able to recognize and cure them. Lecture XXI.: inflammations of the nasal sinuses (max., front., ethmoid., sphen.). A good presentation. Lecture XXII.: diseases of the peripheric apparatuses of special sense: olfaction, taste, hearing, and equilibration. Labyrinthitis. Ménière's syndrome, hysteria, etc.

The remaining ten lectures treat of different conditions which constitute interesting reading and useful knowledge, though they do not lend themselves readily to systematic presentation. Lecture XXIII.: disturbances of general sensibility; reflex phenomena of the nose, pharynx, larynx, and ear. Lecture XXIV.: disturbances of motility of the velum palatinum and larynx; paralysis of the recurrent nerves of the larynx, and other nerves. Lecture XXV.: syphilis, and Lecture XXVI.: tuberculosis of the upper air-passages and the ear. Lecture XXVII.: neoplasms. Lecture XXVIII.: diphtheria and other infectious diseases. Lecture XXIX.: stenosis and foreign bodies. Tracheotomy and intubation. Lecture XXX.: hemorrhage and traumatisms. Lecture XXXI.: external nose and ear. Congenital malformations. Lecture XXXII.: infirmities of hearing and speech: deafmutism and stammering.

The large book of Gradenigo should not be judged with the same rigorousness as a systematic text-book of which Politzer's is a standard, but as a series of essays on a well-defined group of diseases, which the adept as well as the beginner will read with delight, style and typography being excellent.

H. KNAPP.

VIII.—**First Principles of Otology,** a text-book for medical students. By ALBERT H. BUCK, M.D., Clinical Professor of Diseases of the Ear, College of Physicians and Surgeons, Medical Department of Columbia University. Second edition, New York, William Wood & Co., 1903.

In 1899 the first edition was prefaced, that the students of medicine at the College of Physicians and Surgeons of New York could not in their overburdened curriculum, even in the four years' course, master the contents of a middle-sized text-book of otology, but they should have a guide-book at hand that would aid them in making themselves familiar with the primary facts and theories which by lectures, dissecting, diagnostic and clinical instruction, would enable them to recognize and treat understandingly the ear diseases which usually come before the general practitioner, which is equivalent to the amount of knowledge required for their graduation. The little book, having shown itself subservient to these purposes, now appeals in a revised edition also to the students of other colleges.

The book has 216 small-octavo pages, is well written, contains

a number of illustrations, and can be recommended to students who endeavor to acquire in their college course the foundation for an all-round scientific and practical medical education.

H. K.

IX.—**A Thesaurus of Medical Words and Phrases,** by WILFRED M. BARTON, M.D., Assistant Professor of Therapeutics, etc., Medical Department of Georgetown University; and WALTER A. WELLS, M.D., Professor, Washington Postgraduate School. W. B. Saunders & Co., 1903. Flexible leather, $2.50.

This is an elegantly printed and bound book, full of information and very useful: every word used, every derivative and compound are accompanied by their versions in Latin, Greek, or other languages. It contains all the words a medical student or a medical writer need know; and the explanations supplied by an equivalent in French, Latin, or Greek, printed in conspicuous antique type, are all one can desire. It is a pleasure to handle this book; the reviewer has never seen a handier and better gotten-up dictionary.

H. KNAPP.

MISCELLANEOUS NEWS.

APPOINTMENTS.

V. COZZOLINO, professore extraordinario since 1894, was appointed professore ordinario of otology and rhinology at the University of Naples, Italy, in June, 1902.

The honorary professor in ordinary, Dr. HERMANN SCHWARTZE, privy medical councillor, has lately been appointed professor ordinarius of otology at the University of Halle. This is not only a well-deserved honor for the eminent otologist, but an official recognition of the importance of aural surgery in the curriculum of the student of medicine. The day cannot be far distant when otology will have its place in the final examination of the German candidate for his license to practise. At last: "*To merit its crown!*"

Dr. ALFRED DENKER, in Hagen, Westphalia, has been appointed professor of otology, rhinology, and laryngology, as well as executive surgeon of the clinic and dispensary at the University of Erlangen, Bavaria, succeeding the late distinguished Professor KIESSELBACH.

Dr. Wm. L. Ballenger, well known as practitioner, teacher, and author, has been elected by the Faculty of the College of Physicians and Surgeons, Chicago, to the chair of otology, rhinology, and laryngology, to fill the vacancy made by the resignation of Prof. M. R. Brown.

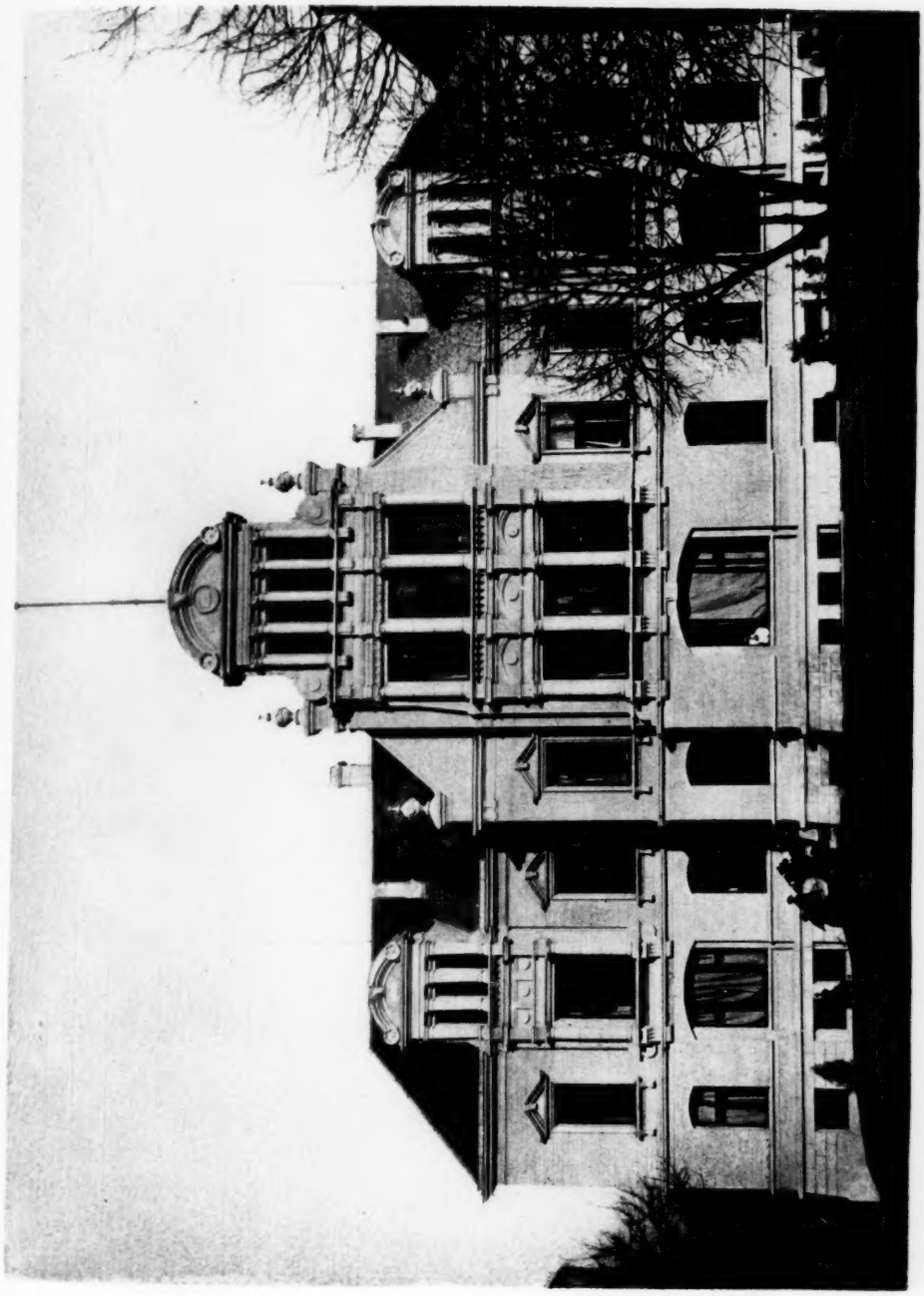
Dr. Hermann Preysing, late assistant to Professor Körner's clinic at Rostock, well known to our readers by valuable publications on otogenous brain-abscess and other serious complications of suppurative middle-ear disease, has become a privat-docent at the University of Leipzig, for otology, rhinology, and laryngology.

DEATHS.

Dr. Oscar Heike, of Breslau, royal Prussian sanitary councillor, otologist of a good deal of reputation, colaborer of the *Arch. f. Ohrenheilkunde*, died of apoplexy unexpectedly during his vacation in September, 1902.

Dr. Anton Schwendt, a capable and esteemed otologist in Basel, Switzerland, and privat-docent at the University, died suddenly in his forty-eighth year.

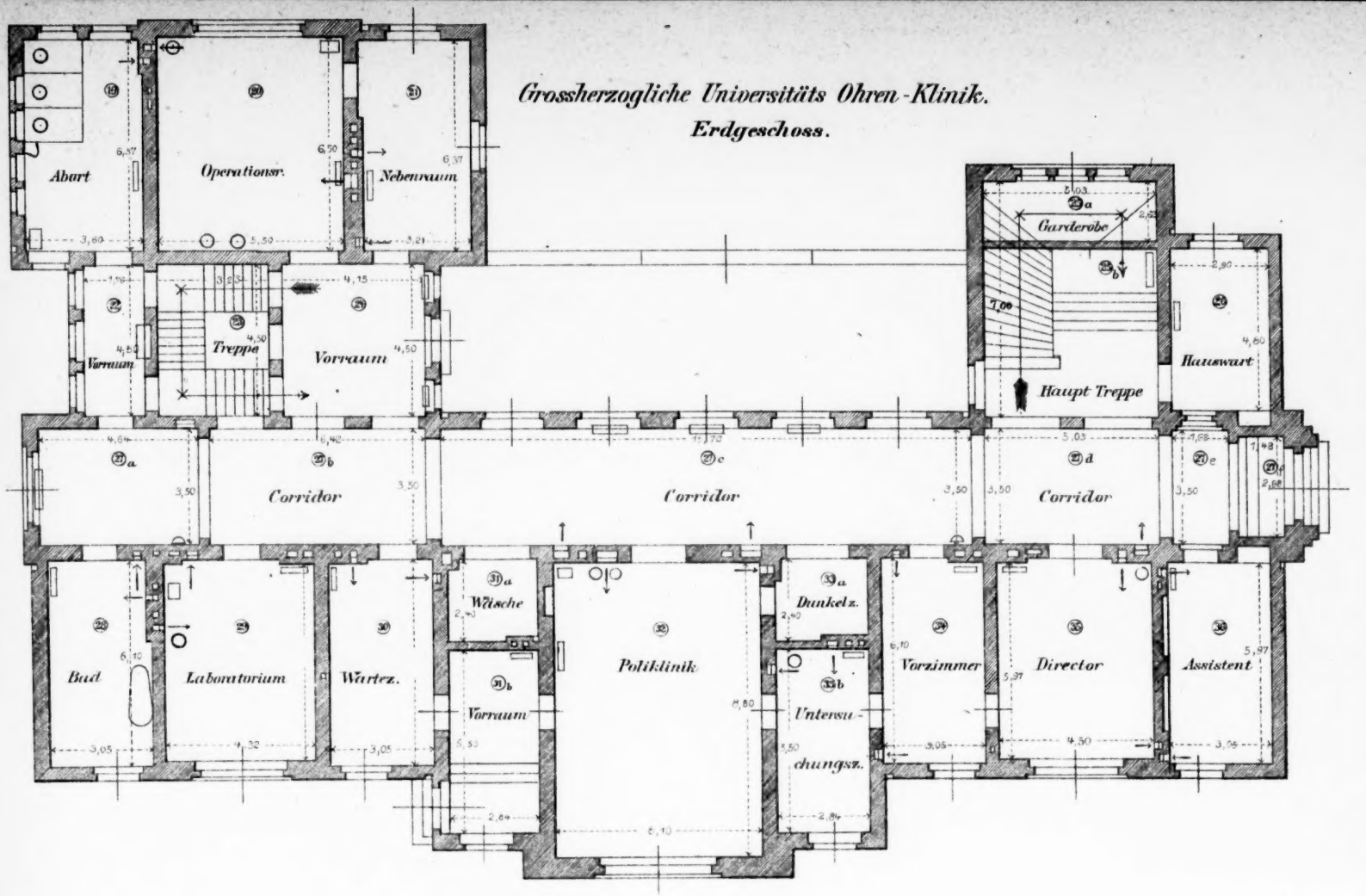
Professor Schwartze, of Halle, announces, in warm and impressive words, the sad decease of one of his pupils, Dr. Anton Cramer, aged twenty-nine, from septic poison in consequence of an injury to one of his fingers during attendance on a patient in the hospital. In spite of all the care and attention bestowed on him at the surgical clinic, the fatal issue could not be averted. In the face of this sad event Professor Schwartze earnestly warns his colleagues not to underrate the danger ever inherent in the handling of patients.



Lichtdruck der Verlagsanstalt Bruckmann, München. Verlag von J. F. Bergmann, Wiesbaden.

Grossherzogliche Universitäts Ohren-Klinik.

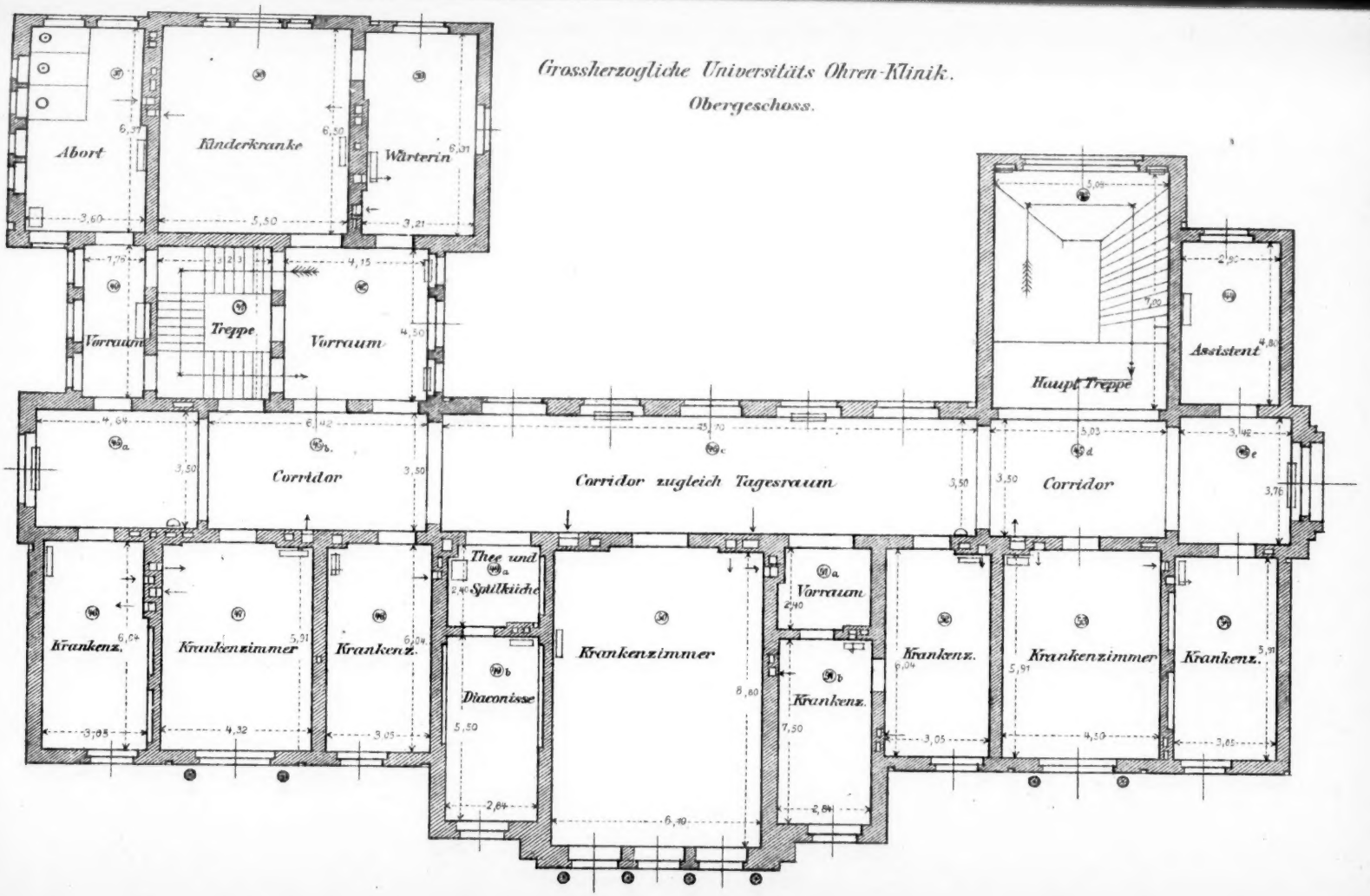
Erdgeschoss.



Verlag von J. F. Bergmann Wiesbaden.

Grossherzogliche Universitäts Ohren-Klinik.

Obergeschoss.



M: 0,005 (1/200)

0 1 2 3 4 5 10 15 20 m.

Verlag von J. F. Bergmann, Wiesbaden.

ARCHIVES OF OTOLOGY.

ON HEMORRHAGE FROM ARROSION OF THE BRAIN SINUSES IN SUPPURATION OF THE TEMPORAL BONES.

By Dr. H. EULENSTEIN, of Frankfort-on-Main.

Translated by Dr. H. Knapp, from German Edition (*Zeitsch. f. O.*, vol. xliii.).

THOUGH by the frequent destruction of its bony sulcus the lateral sinus loses a good deal of its resistance, it is very rare that hemorrhages by arrosion of its walls occur. The reason of it is that an obturating thrombus forms before the sinus wall gives way, a fact made known long ago by WREDEN, who, in the *Monatsschrift für Ohrenheilkunde*, No. 10, 1869, collected the previously published cases.[1] The hemorrhage may be *more or less copious* according as the obturating thrombus is more or less complete, or the perforation of the sinus wall larger or smaller. The hemorrhage may be *external* or *internal:* the former when the blood through the opening in the sinus wall makes its way through the cavities of the petrous bone into the external ear canal and the naso-pharyngeal space; the latter when the blood enters into the middle or posterior cranial fossa. All brain sinuses that are in relation with the temporal bone may occasion the hemorrhage: the lateral, both petrosal, the cavernous, the carotid, and the jugular bulb.

[1] Hooper, *Morbid Anatomy of the Brain*, 1826, quoted by Cruveillier: *Anatomie pathol. du corps humain*, 1830–1842, Livr. viii., pl. 4, p. 3. Bruce, *London Med. Gaz.*, 1841. Stokes, *London Med. and Surg. Jour.*, vol. v., p. 676. Toynbee, *Med. Times and Gaz.*, 1855, T. x., pp. 3, 228, 306, and *Med.-Chir. Trans.*, vol. xxxiv., 1851. Virchow, *Arch. f. path. Anat.*, Bd. viii., p. 378. Hensinger, *ibid.*, xi., p. 92. Griesinger, *Wagner's Arch. f. Heilk.*, iii., p. 448. Wreden, *Otit. med. neonat.*, Berlin, 1868.